55-1520-240-T-2/990

TECHNICAL MANUAL

AVIATION UNIT AND AVIATION INTERMEDIATE TROUBLESHOOTING MANUAL CH-47D HELICOPTER

This copy is a reprint which includes current pages from Changes 1 through 3.

HEADQUARTERS, DEPARTMENT OF THE ARMY
10 MAY 1983

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TM 55-1520-240-T-2
C 3

CHANGE
NO. 3

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DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 1 May 1987

Aviation Unit and Aviation Intermediate
Troubleshooting Manual

CH-47D HELICOPTER

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By Order of the Secretary of the Army:

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Chief of Staff

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Aviation Unit and Aviation Intermediate
Troubleshooting Manual

CH-47D HELICOPTER

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CHANGE NO. 1

HEADQUARTERS
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Aviation Unit and Aviation Intermediate
Troubleshooting Manual

CH-47D HELICOPTER

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Brigadier General, United States Army
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DISTRIBUTION:
To be distributed in accordance with DA Form 12-31, Organizational Maintenance requirements for CH-47D aircraft.

WARNING AND FIRST AID DATA.

Warnings, cautions, and notes emphasize important critical instructions. They are defined as follows:

WARNING

An operating procedure or practice which, if not correctly followed, will result in personnel injury or loss of life.

CAUTION

An operating procedure or practice which, if not strictly observed, will result in damage or destruction of equipment.

NOTE

An operating procedure or condition which it is essential to highlight.

Personnel performing instructions involving operations, procedures, materials, and practices which are included or implied in this technical manual shall observe the following instructions. Disregard of these warnings and precautionary information can cause serious injury or death. Refer to FM 21-11 for first aid data to treat injuries resulting from working on the helicopter.

Dangerous Static Charges. Ground the helicopter during parking, fueling, or defueling.

Dangerous Voltages Exist in the Electronic Equipment. Be careful when working on the 150- and 300-volt dc circuits and on the ac generator 115- and 200 volt ac outputs.

Dangerous Voltages may Exist at Antenna Terminals. Be careful when working near the antenna or the antenna terminals. Radio-frequency (rf) high voltages exist at these points when transmitters are operating. Contact with radiating antennas can cause serious rf burns.

Poisonous Carbon Monoxide Fumes. Toxic carbon monoxide fumes may be present inside the helicopter whenever the apu or engines are operating with the cargo ramp open. Ventilate the cockpit.

Dangerous Fuel Handling. Incorrect fuel handling causes fire hazards. Ground the helicopter when fueling or defueling.

Corrosive Battery Electrolyte (Potassium Hydroxide). Wear rubber gloves, apron, and face shield when handling leaking batteries. If potassium hydroxide is spilled on clothing, or other material wash immediately with clean water. If personnal contact is made, immediately start flushing the affected area with clean water. Continue washing until medical assistance arrives.

Acids and Alkalines. Do not add water to acids. A violent action will result. Acids should be added to water in small quantities. Ruststripper is an alkaline solution. Avoid contact with the skin. Wear protective clothing. Wash thoroughly after using.

Solvent and Cleaning Solutions. These materials are generally toxic and many (toluene, benzene, xylene, methyl-ethyl-ketone, perchlorethylene, naphtha, trichloroethylene) are highly flammable. Work in a well ventilated area away from open flames. Avoid inhaling fumes and prolonged contact with the skin. Wear protective clothing and goggles. Wash thoroughly after using.

Windshield Repellant. Do not let windshield rain repellant contact open flame. Deadly hydrogen fluoride gas could be generated. Wash hands with soap and water after handling repellant.

Antiseize Compounds. Some antiseize compounds are irritants. Avoid inhaling fumes and contact with the skin. Wear protective clothing. Wash thoroughly after using.

Paints, Varnishes, Dopes, Thinners, Lubricants, and Fuels. These materials are generally highly flammable and may be irritants. Work in a well ventilated area away from open flames. Avoid inhaling fumes and prolonged contact with the skin. Wash thoroughly after using.

Epoxy Resins, Cements, and Adhesives. These materials may contain toxic or irritating substances. They may also be flammable. Work in a well ventilated area away from open flames. Wear protective clothing. Avoid contact with the skin. Wash thoroughly after using.

Radiation Hazard. Some instruments contain radioactive material. (See TB 55-1500-314-25.) Do not try to disassemble these instruments. They present no radiation hazard unless seal is broken. If you think seal is broken, do not remove instrument from aircraft until you consult Base Radioactive Protection Officer (AR 40-15). Use a beta-gamma radiac meter AN/PDR-27 or equivalent to determine if instrument contains radioactive material (radium).

Fire Extinguishing Agents. Avoid repeated or prolonged exposure to high concentration of bromochloromethane (CB) or decomposition products. CB is a narcotic agent of moderate intensity but prolonged duration. It is less toxic than carbon tetrachloride, methylbromide, or products of combustion. Take normal precautions while using bromochloromethane. Use oxygen masks when available.

Monobromotrifluoromethane (CF_3Br) is highly volatile but is not easily detected by its odor. Although nontoxic, it is about the same as other freons and carbon dioxide, causing danger to personnel primarily by reduction of oxygen available for proper breathing. Do not allow the liquid to come into contact with your skin. It may cause frostbite or low temperature burns.

Noise. Sound pressure levels in this aircraft during some operating conditions exceed the Surgeon General's hearing conservation criteria, as defined in TB MED 251. Hearing protection devices, such as the aviator helmet or ear plugs, are required to be worn by all personnel in and around the aircraft during its operation.

FOD. Make sure area is clear of foreign objects before closing access doors, panels, and fairings. If the area is not cleared, damage to components and systems could result in personal injury or death.

Hydraulic Pressures. High pressures used in testing hydraulic components can cause line rupture or component failure. Only qualified personnel shall operate, service and maintain hydraulic test equipment. Use heavy plastic shielding, 1/2-inch thickness or more, when applying pressures over 250 psi, to prevent injury to personnel.

Compressed Air. Do not use more than 30 psi compressed air for cleaning purposes. Debris trajected under pressure can cause injury to eyes. Use source of compressed air under 30 psi and eye protection to prevent injury to personnel.

Flare Dispenser. Remove all power from helicopter before installing loaded payload module on dispenser assembly. Keep hands and face away from end of payload module during installation. Flares can accidentally fire, sometimes from stray voltage, resulting in injury or death.

TECHNICAL MANUAL
NO. 55-1520-240-T

TM 55-1520-240-T

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 10 MAY 1983

Aviation Unit and Aviation Intermediate
Troubleshooting Manual

CH-47D HELICOPTER

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, USATSARCOM, ATTN: DRSTS-MPSD, 4300 Goodfellow Blvd., St. Louis, MO 63120. A reply will be furnished to you.

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HOW TO USE THIS MANUAL (TM 55-1520-240-T)

This manual has 17 Chapters that have instructions for troubleshooting 72 CH-47 Helicopter Systems.

Chapter 1 has:

- The Complete List of Troubleshooting Symptoms you will find in this manual. This list outlines each chapter by system and symptom.
- Complete wiring for 300 Series Connectors and Receptacles, Terminal Boards, and Ground Devices.

Chapters 2 thru 17 have sets of troubleshooting instructions that include:

- **A Chapter outline** of all systems and symptoms found in the beginning of each Chapter.
- **Connector part numbers and pin patterns** for each connector and receptacle in systems contained in chapter. Also included are **relay termination views** and **ground termination types** and **location**.
- **System Schematics** and/or **Wiring Diagrams.**
- **Visual Checks** with locator figures and step by step procedures.
- **Operational Checks** with locator figures and step by step procedures.
- **Fault Isolation Procedures** with locator figures and troubleshooting logic for specific system faults.

HOW TO FIND WHAT YOU NEED

Maintenance—Refer to TM 55-1520-240-23.

Troubleshooting—Use the index in Chapter 1 or in the beginning of each chapter. This is where you will find the system troubleshooting procedures (visual checks, operational checks and fault isolation procedures).

1. The troubleshooting procedures are listed under the name of the system that the component or system belongs to.
2. Each system has a number:

   Example:

System No.	System
9-15	Cabin and Ramp Lights

3. Each item in your set of troubleshooting instructions has a task number. The system number is prefixed to each of the item task numbers.

   Example:

System No.	System Symptom	Task No.
9-15	Cabin and Ramp Lights	
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	Visual Check	9-15.2
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TASK PREPARATION

Each Troubleshooting procedure begins with INITIAL SETUP information. Read it carefully before starting. It tells you what you need and what you have to know before you begin the job.

1. **Applicable Configurations.** Tells you what configurations or effectivity the task applies to.
2. **Tools.** If any tools from your tool kit are needed, just the kit is listed. Tools needed that are not in the kit are called for by name. Special ground support tools, containers, and test equipment are listed by tool number (Txx). Find these items in TM 55-1520-240-23.
3. **Materials.** Materials needed are listed by expendable number (EXX). Find these items in TM 55-1520-240-23.
4. **Parts.** New parts required, such as gaskets, packings, and washers, are listed by name only. If parts are not needed, you will not see this heading.
5. **Personnel Required.** Each MOS needed to do the task is listed. When more than one of any MOS is needed, the number is shown in parentheses.
6. **References.** Lists references such as TM 55-1520-240-23. These references will provide where information can be found when you need to repair or replace a part or component. When more than one reference is listed, the Fault Isolation Procedure blocks will contain a refer to statement for all references other than TM 55-1520-240-23.
7. **Equipment Condition.** Procedures which must be done before starting the task are listed and task or TM number is given. Tasks that are not indented under a TM manual can be found in this manual. Refer to the TM manual listed above the indented tasks.
8. **General Safety Instructions.** These are safety precautions that must be observed throughout task. Warnings include basic first aid instructions.
9. **Locator Figure.** The area of the helicopter where the task will be performed is shown, with components to be worked on called out.

TASK PERFORMANCE

1. Visual Checks are performed to determine if the cause of the system fault is visually apparent.
2. Operational Checks are performed step by step on the system to determine the system fault. Continue the operational check TASK until the symptom is confirmed in the RESULT column.
3. Fault Isolation Procedures are performed to identify the specific trouble in the system. Start with the first block. Read it through and answer the question. The questions will always have a YES or NO answer. If you answer the question YES, follow the direction of the YES arrow to the next block. If you answer the question NO, follow the direction of the NO arrow to the next block. Continue troubleshooting until the symptom cause is identified.
4. Use the integrated schematic during troubleshooting for a view of system component connections and system interfaces.
5. Use the wiring diagram when the troubleshooting instructions require wire tests to isolate the symptom cause.

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6. Before starting, read the entire task. Familiarize yourself with the entire procedure before beginning the task.
7. As you read, pay attention to **WARNINGS, CAUTIONS,** and **NOTES**.
8. **When the word INSPECT** is in your procedures, an inspector must ok the completed step(s).
9. Major steps and key words are printed in **boldface** for experienced repairers.
10. A glossary is on page 1-87. It lists the abbreviations, special words and terms used in this manual and gives their meaning.
11. When a special tool is used or a common tool is used in an unusual way, the use of the tool will be shown.
12. When a block states, "Repair or replace wire as required.", refer to TM 55-1500-323-25 for recommended maintenance practices.
13. Voltages specified in blocks are nominal values unless a range is given. These nominal values and their acceptable ranges are as follows:

Nominal voltage	Range
28 VDC	24 to 30
26 VAC	24 to 28
24 VDC (Battery)	20 to 24
5 VAC	4 to 6
115 VAC	110 to 120

AIRCRAFT MODIFICATION (ECP/MWO) RETROFIT INFORMATION

Throughout this manual, black squares containing white numerals are used to distinguish information relating t helicopters modified by an MWO or ECP. Refer to Helicopter Configuration Legend on the following pages for specific modification and effectivities relating to each numeral. A list of delivered helicopters serial numbers is included with the legend.

Information pertaining only to unmodified helicopters is identified by the appropriate effectivity symbol preceded by WITHOUT. For example, WITHOUT 4 indicates that the information that follows is applicable only to helicopters **not** modified by ECP D)18. Information pertaining only to helicopters that have been modified by ECP D018 is preceded by WITH 4. All information not preceded by an effectivity symbol is common to all helicopters.

The following helicopter Designation Legend pages are solely for user convenience. They have no official status.

DELIVERED HELICOPTER SERIAL NUMBERS

81-23382	82-23762	83-24102	84-24152	85-24322
through	through	through	through	through
81-23389	82-23780	83-24125	84-24187	85-24336

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HELICOPTER CONFIGURATION LEGEND

CODE	ECP/MWO NO.	TITLE	EFFECTIVITY PRODUCTION (Serial Number)	EFFECTIVITY RETROFIT
1	ECP DO03R1	Improved Synch Shaft Vibration Mount	84-24156	Attrition
2	ECP DO10R2C1	Fuel Cell Manifold Control Bracket	82-23764	Spares & Future 82-23381 thru 82-23763
3	ECP DO08	Rotor Hub Protective Cover Enlargement	85-24322	83-24121
4	ECP DO18	Composite Fuel Pods	84-24162	Attrition
5	ECP DO06	Removable Support Structure Pylon Hyd. Module	81-23385	By Kit all D
6	ECP DO37R2	Shorter 114C1014 Yaw Connecting Link	85-24322	Attrition
7	ECP DO34	Pilot and Co-Pilot Seat Armor	81-23386 through 81-23389 No action for 81-23382 through 81-23385	None
8	ECP DO42	Redesign Link Assy for Increased Parked Blade Loads	83-24105	Attrition
9	ECP DO48	Flare Dispenser Blanket Mod and Stowage Provision	83-24107	None
10	ECP DO61R	Floor Former/Fuselage Bilge Paint (Special paint for 14 aircraft)	83-24107 through 83-24118 (Interior) 83-24105 through 83-24118 (Exterior)	None
11	ECP DO65	Second Source 114PS494 Fuel Shutoff Valve (Motorized)	82-23776	Attrition
12	ECP DO71	2-Inch Dia. Fuel Breakaway Fittings	83-24110	Attrition
13	ECP DO74C1	Install Steel Control Rods Aft Pylon	83-24103	81-23381 thru 83-24102 by Tech Bulletin
14	ECP DO15C2	Install Bubble Windows	85-24322	Recommended
15	ECP DO51	Rainshield Redesign	84-24158	None
16	ECP DO75	Heater Modification	85-24322	Attrition
17	ECP DO27R1C1	Night Vision Goggles (NVG)	85-24322	MWO
18	ECP DO36	Improved N1 System	85-24322	Attrition
19	ECP DO69R1	Ferry Fuel Provisions	85-24322	MWO
20	ECP DO64	Redesign Combining Transmission Support Fitting	84-24154	Retrofit
21	ECP DO29	Ilca Actuator and Manifold Seal Change	85-24322	Next Overhaul
22	ECP DO60	Ramp Skin and Ramp End Former	85-24322	None
23	ECP DO01	Improved N2 Control Box	84-24156	Attrition
24	ECP DO56	Redesign Droop Stop Arm to Increase Clearance With Shroud; Modify Spring Limiter	85-24322	Attrition
25	ECP DO81	Ground Contact Annunciator	87-0069	Attrition

END OF TASK

CHAPTER 8

INSTRUMENT SYSTEMS TROUBLESHOOTING

CHAPTER 8
INSTRUMENT SYSTEM TROUBLESHOOTING

CHAPTER OVERVIEW

Chapter 8 contains procedures for Instrument System troubleshooting. Each system and failure symptom is listed below. Included in this chapter are locations and views of all electrical connectors, receptacles, relays, and ground connections for the Instrument System.

Refer to TM 55-1520-240-23 for required maintenance procedures.

SYSTEM	PARA
PITOT STATIC SYSTEM	8-1
GAS PRODUCER TACHOMETER SYSTEM	8-2
ENGINE OIL PRESSURE INDICATING SYSTEM	8-3
ENGINE OIL TEMPERATURE INDICATING SYSTEM	8-4
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TORQUE INDICATING SYSTEM	8-6
HYDRAULIC PRESSURE INDICATING SYSTEM	8-7
HYDRAULIC OIL TEMPERATURE INDICATING SYSTEM	8-8
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FAILURE SYMPTOM LIST

PITOT STATIC SYSTEM

SYMPTOM	TASK
AIMS ALT CIRCUIT BREAKER WILL NOT STAY CLOSED	8-1.4
NO HEAT FELT ON LEFT OR RIGHT PITOT TUBE, PITOT SWITCH AT ON	8-1.4
NO HEAT FELT ON LOWER RIGHT OR LOWER LEFT SIDESLIP PORTS	8-1.4
NO HEAT FELT ON UPPER RIGHT OR UPPER LEFT SIDESLIP PORTS	8-1.4
NO. 1 OR NO. 2 PITOT SYSTEM LEAKS	8-1.4
NO. 1 OR NO. 2 SIDESLIP SYSTEM LEAKS	8-1.4
PILOT'S OR COPILOT'S ALTIMETER VIBRATOR DOES NOT OPERATE	8-1.4
PITOT HEAT CIRCUIT BREAKER WILL NOT STAY CLOSED	8-1.4
PITOT STATIC SYSTEM LEAKS	8-1.4
YAW PORT HEAT CIRCUIT BREAKER WILL NOT STAY CLOSED	8-1.4

GAS PRODUCER TACHOMETER SYSTEM

SYMPTOM	TASK
NO. 1 GAS PRODUCER TACHOMETER READS 0 PERCENT RPM WHEN NO. 1 ENGINE IS MOTORED	8-2.3
NO. 2 GAS PRODUCER TACHOMETER READS 0 PERCENT RPM WHEN NO. 2 ENGINE IS MOTORED	8-2.3

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FAILURE SYMPTOM LIST (Continued)

SYMPTOM	TASK
ENGINE OIL PRESSURE INDICATING SYSTEM	
ENGINE OIL PRESS CIRCUIT BREAKER DOES NOT STAY CLOSED	8-3.3
ENGINE OIL PRESSURE INDICATOR DOES NOT INDICATE 0	8-3.3
NO. 1 ENGINE OIL PRESS INDICATOR DOES NOT INDICATE 20 PSI MINIMUM OR POINTER FLUCTUATES MORE THAN 5 PSI	8-3.3
NO. 2 ENGINE OIL PRESS INDICATOR DOES NOT INDICATE 20 PSI MINIMUM OR POINTER FLUCTUATES MORE THAN 5 PSI	8-3.3
ENGINE OIL TEMPERATURE INDICATING SYSTEM	
ENGINE OIL TEMP CIRCUIT BREAKER DOES NOT STAY CLOSED	8-4.3
NO. 1 ENGINE OIL TEMPERATURE INDICATOR INDICATION IS NOT WITHIN 10°C OF FAT INDICATOR	8-4.3
NO. 2 ENGINE OIL TEMPERATURE INDICATOR INDICATION IS NOT WITHIN 10°C OF FAT INDICATOR	8-4.3
PTIT AND EMERGENCY POWER INDICATING SYSTEM	
NO. 1 ENGINE EMERGENCY POWER TIMER DOES NOT OPERATE WHEN NO. 1 ENGINE PTIT INDICATION IS 890°C TO 910°C	8-5.3
NO. 1 ENGINE PTIT INDICATOR DOES NOT INDICATE IN GREEN BAND	8-5.3
NO. 1 OR NO. 2 ENGINE EMERGENCY POWER FLAG INDICATOR REMAINS BLACK WHEN NO. 1 OR NO. 2 ENGINE PTIT INDICATION IS 890°C TO 910°C	8-5.3
NO. 1 OR NO. 2 ENGINE EMERGENCY POWER FLAG INDICATOR WILL NOT RESET TO BLACK, FLAG RESET SWITCH AT RESET	8-5.3
NO. 1 OR NO. 2 ENGINE EMERGENCY POWER LIGHTS WILL NOT COME ON WHEN PRESSED TO TEST	8-5.3
NO. 2 ENGINE EMERGENCY POWER TIMER DOES NOT OPERATE WHEN NO. 2 ENGINE PTIT INDICATION IS 890°C TO 910°C	8-5.3
NO. 2 ENGINE PTIT INDICATOR DOES NOT INDICATE IN GREEN BAND	8-5.3
PILOT'S AND COPILOT'S EMERGENCY POWER LIGHTS DO NOT COME ON WHEN NO. 1 OR NO. 2 ENGINE PTIT INDICATION IS 890°C TO 910°C	8-5.3
PILOT'S AND COPILOT'S EMERGENCY POWER LIGHTS ON, ROTOR AT 100 PERCENT ROTOR RPM, BOTH ENGINES OPERATING	8-5.3
TORQUE INDICATING SYSTEM	
NO. 1 OR NO. 2 ENGINE TORQUE DC CIRCUIT BREAKERS WILL NOT STAY CLOSED	8-6.3
NO. 1 OR NO. 2 ENGINE TORQUE AC CIRCUIT BREAKER WILL NOT STAY CLOSED	8-6.3
NO. 1 POINTER ON PILOT'S OR COPILOT'S INDICATOR DOES NOT INDICATE TORQUE	8-6.3
NO. 2 POINTER ON PILOT'S OR COPILOT'S INDICATOR DOES NOT INDICATE TORQUE	8-6.3
HYDRAULIC PRESSURE INDICATING SYSTEM	
HYDRAULICS PRESS IND CIRCUIT BREAKER DOES NOT STAY CLOSED	8-7.3
NO. 1 FLT CONT HYDRAULICS PRESSURE INDICATOR DOES NOT INDICATE 2500 TO 3500 PSI OR POINTER FLUCTUATES MORE THAN 50 PSI	8-7.3
NO. 2 FLT CONT HYDRAULICS PRESSURE INDICATOR DOES NOT INDICATE 2500 TO 3500 PSI OR POINTER FLUCTUATES MORE THAN 50 PSI	8-7.3
UTILITY HYDRAULICS PRESSURE INDICATOR DOES NOT INDICATE 2500 TO 3500 PSI OR POINTER FLUCTUATES MORE THAN 50 PSI	8-7.3

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FAILURE SYMPTOM LIST (Continued)

HYDRAULIC OIL TEMPERATURE INDICATING SYSTEM

SYMPTOM	TASK
HYDRAULIC FLUID TEMP CIRCUIT BREAKER DOES NOT STAY CLOSED	8-8.3
NO.1 1 FLT CONT HYDRAULIC TEMPERATURE INDICATOR POINTER DOES NOT MOVE UP SCALE OR EXCEEDS 120°C (PEGS)	8-8.3
NO. 2 FLT CONT HYDRAULICS TEMPERATURE INDICATOR POINTER DOES NOT MOVE UP SCALE OR EXCEEDS 120°C (PEGS)	8-8.3
UTILITY HYDRAULICS TEMPERATURE INDICATOR POINTER DOES NOT MOVE UP SCALE OR EXCEEDS 120°C (PEGS)	8-8.3

TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM

SYMPTOM	TASK
FWD, COMB, AFT, AFT SHAFT, LEFT, OR RIGHT TRANSMISSION MAIN OIL PRESS LIGHT DOES NOT COME ON WHEN PRESSED	8-9.3
FWD, COMB, AFT, AFT SHAFT, LEFT, RIGHT, OR AFT TRANSMISSION MAIN OIL PRESS LIGHT IS OUT	8-9.3
FWD, COMB, AFT SHAFT, LEFT, OR RIGHT TRANSMISSIONMAIN OIL PRESS LIGHT STILL ON WHEN ITS PRESSURE SWITCH DISCONNECTED	8-9.3
FWD, COMB, OR AFT TRANSMISSION AUX OIL PRESS LIGHT DOES NOT COME ON WHEN PRESSED	8-9.3
FWD, COMB, OR AFT TRANSMISSION AUX OIL PRESS LIGHT IS OUT	8-9.3
FWD, COMB, OR AFT TRANSMISSION AUX OIL PRESS LIGHT IS STILL ON WHEN IT'S PRESSURE SWITCH IS DISCONNECTED	8-9.3
XMSN AUX OIL PRESS CAPSULE DOES NOT COME ON DURING TEST	8-9.3
XMSN AUX OIL PRESS CAPSULE NOT LIT	8-9.3
XMSN AUX OIL PRESS CAPSULE ON WHEN ALL PRESSURE SWITCHES ARE DISCONNECTED	8-9.3
XMSN OIL PRESS CAPSULE DOES NOT COME ON DURING TEST	8-9.3
XMSN OIL PRESS CAPSULE NOT LIT	8-9.3
XMSN OIL PRESS CAPSULE STILL ON WHEN ALL MAIN OIL PRESS SWITCHES ARE DISCONNECTED	8-9.3
XMSN OIL PRESS CIRCUIT BREAKER DOES NOT STAY CLOSED	8-9.3
XMSN OIL PRESS INDICATOR DOES NOT READ IN NORMAL RANGE FOR ONE XMSN OIL PRESS SWITCH POSITION	8-9.3
XMSN OIL PRESS INDICATOR DOES NOT READ IN NORMAL RANGE WHEN XMSN OIL PRESS SWITCH IS AT SCAN	8-9.3

TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM

SYMPTOM	TASK
ENG XMSN HOT CAPSULE LIT	8-10.3
NO. 1 OR NO. 2 ENG XMSN HOT CAPSULE DOES NOT COME ON DURING TEST	8-10.3
TRANSMISSION OVERTEMP INDICATORS DO NOT RESET	8-10.3
XMSN OIL HOT CAPSULE LIT	8-10.3
XMSN OIL HOT CAPSULE LIT OR AFT TRANSMISSION OVERTEMP INDICATOR IS BLACK DURING TEST	8-10.3
XMSN OIL HOT CAPSULE LIT OR COMB TRANSMISSION OVERTEMP INDICATOR IS BLACK DURING TEST	8-10.3
XMSN OIL HOT CAPSULE LIT OR FWD TRANSMISSION OVERTEMP INDICATOR IS BLACK DURING TEST	8-10.3
XMSN OIL HOT CAPSULE OR LEFT TRANSMISSION OVERTEMP INDICATOR IS BLACK DURING TEST	8-10.3
XMSN OIL HOT CAPSULE LIT OR RIGHT TRANSMISSION OVERTEMP INDICATOR IS BLACK DURING TEST	8-10.3
XMSN OIL TEMP CIRCUIT BREAKER WILL NOT STAY CLOSED	8-10.3
XMSN TEMP INDICATOR POINTER DOES NOT INDICATE AMBIENT TEMPERATURE AT SCAN	8-10.3
XMSN TEMP INDICATOR POINTER DOES NOT MOVE BELOW -70°C DURING TEST	8-10.3
XMSN TEMP INDICATOR DOES NOT READ AMBIENT TEMPERATURE AT SELECTED SWITCH POSITION	8-10.3

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FAILURE SYMPTOM LIST (Continued)

SYMPTOM	TASK
FUEL QUANTITY AC CIRCUIT BREAKER WILL NOT STAY CLOSED	8-11.3
FUEL QUANTITY DC CIRCUIT BREAKER WILL NOT STAY CLOSED	8-11.3
FUEL QUANTITY INDICATOR DIGITAL READOUT DOES NOT SHOW TOTAL FUEL QUANTITY WHEN FUEL QUANTITY SELECT SWITCH IS SET TO TOTAL	8-11.3
FUEL QUANTITY INDICATOR POINTER SPINS CONTINUOUSLY WHEN FUEL QUANTITY SELECT SWITCH IS SET TO ANY POSITION	8-11.3
FUEL QUANTITY INDICATION WRONG WHEN FUEL QUANTITY SELECT SWITCH IS SET TO L AFT	8-11.3
CRUISE GUIDE CIRCUIT BREAKER DOES NOT STAY CLOSED	8-12.3
TURN AND SLIP CIRCUIT BREAKER DOES NOT STAY CLOSED	8-13.3
FILTER CHANGE AND PUMP CHANGE LIGHTS DO NOT COME ON WHEN PRESSED	8-14.3
HYDRAULICS MAINT PNL CIRCUIT BREAKER WILL NOT STAY CLOSED	8-14.3
COPILOT'S ROTOR TACHOMETER DOES NOT INDICATE 98 TO 101 PERCENT WHEN ROTOR TACH CIRCUIT BREAKER OPEN	8-15.3
COPILOT'S ROTOR TACHOMETER DOES NOT READ 98 TO 101 PERCENT	8-15.3
ENGINE NO. 1 FUEL FLOW CIRCUIT BREAKER WILL NOT STAY CLOSED	8-16.3
ENGINE NO. 2 FUEL FLOW CIRCUIT BREAKER WILL NOT STAY CLOSED	8-16.3

FUEL QUANTITY INDICATING SYSTEM

SYMPTOM	TASK
FUEL QUANTITY INDICATION WRONG WHEN FUEL QUANTITY SELECT SWITCH IS SET TO L FWD	8-11.3
FUEL QUANTITY INDICATION WRONG WHEN FUEL QUANTITY SELECT SWITCH IS SET TO L MAIN	8-11.3
FUEL QUANTITY INDICATION WRONG WHEN FUEL QUANTITY SELECT SWITCH IS SET TO R AFT	8-11.3
FUEL QUANTITY INDICATION WRONG WHEN FUEL QUANTITY SELECT SWITCH IS SET TO R FWD	8-11.3
FUEL QUANTITY INDICATION WRONG WHEN FUEL QUANTITY SELECT SWITCH IS SET TO R MAIN	8-11.3
L FUEL LOW CAUTION CAPSULE DOES NOT COME ON WHEN L MAIN TANK FUEL LEVEL IS BELOW 320 TO 420 POUNDS	8-11.3

CRUISE GUIDE INDICATING SYSTEM

SYMPTOM	TASK
CRUISE GUIDE INDICATOR POINTER NOT IN TEST BAND WITH CGI TEST SWITCH AT AFT	8-12.3

TURN AND SLIP INDICATORS

SYMPTOM	TASK
TURN AND SLIP INDICATOR POINTER DOES NOT MOVE IN DIRECTION OF TURN	8-13.3

MAINTENANCE PANEL POWER DISTRIBUTION

SYMPTOM	TASK
HYDRAULICS MAINT PNL LTS CIRCUIT BREAKERWILL NOT STAY CLOSED	8-14.3
INDICATORS DO NOT TURN BLACK AND WHITE WITH GND TEST SWITCH AT TEST	8-14.3

ROTOR TACHOMETER

SYMPTOM	TASK
PILOT'S OR COPILOT'S ROTOR TACHOMETER DOES NOT INDICATE 98 TO 101 PERCENT WHEN BATT SWITCH SET TO OFF	8-15.3
PILOT'S ROTOR TACHOMETER DOES NOT INDICATE 98 TO 101 PERCENT WHEN ROTOR TACH CIRCUIT BREAKER OPEN	8-15.3

FUEL FLOW

SYMPTOM	TASK
FUEL FLOW INDICATOR NO. 1 DOES NOT INDICATE FUEL FLOW	8-16.3
FUEL FLOW INDICATOR NO. 1 POINTER DOES NOT INDICATE APPROXIMATE FUEL FLOW	8-16.3

SYMPTOM	TASK
L FUEL LOW WARNING CAPSULE ON WHEN L MAIN FUEL TANK IS FULL	8-11.3
REFUEL PANEL FUEL QUANTITY INDICATOR DOES NOT INDICATE FUEL LEVEL AT ANY SWITCH POSITION	8-11.3
REFUEL PANEL FUEL QUANTITY INDICATOR INDICATES FUEL LEVEL FOR ALL BUT ONE SWITCH POSITION	8-11.3
R FUEL LOW WARNING CAPSULE DOES NOT COME ON WHEN R MAIN TANK FUEL LEVEL IS BELOW 320 TO 420 POUNDS	8-11.3
R FUEL LOW WARNING CAPSULE ON WHEN R MAIN FUEL TANK IS FULL	8-11.3
CRUISE GUIDE INDICATOR POINTER NOT IN TEST BAND WITH CGI TEST SWITCH AT FWD	8-12.3
INDICATORS WILL NOT TURN ALL BLACK WITH GND TEST SWITCH AT RESET	8-14.3
MAINTENANCE PANEL UTILITY LIGHT WILL NOT COME ON	8-14.3
PILOT'S ROTOR TACHOMETER DOES NOT READ 98 TO 101 PERCENT	8-15.3
ROTOR TACH CIRCUIT BREAKER WILL NOT STAY CLOSED	8-15.3
FUEL FLOW INDICATOR NO. 2 POINTER DOES NOT INDICATE APPROXIMATE FUEL FLOW	8-16.3
FUEL FLOW INDICATOR NO. 2 POINTER DOES NOT INDICATE FUEL FLOW	8-16.3

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INSTRUMENT SYSTEM ELECTRICAL COMPONENT LOCATION AND CONFIGURATION LIST

REF DESIG	PART NUMBER	TYPE	MATE WITH/LOCATION	STATION LOCATION FS	WL	BL
GD001		150	CONSOLE, FWD CTR INSTR PNL			
GD004		150	CONSOLE, FWD CTR INSTR PNL			
GD009		150	CONSOLE, FWD CTR INSTR PNL			
GD016		150	CONSOLE, FWD CTR INSTR PNL			
GD017		150	CONSOLE, FWD CTR INSTR PNL			
GD019		151	CONSOLE, FWD CTR INSTR PNL			
GD020		151	CONSOLE, FWD CTR INSTR PNL			
GD023		151		492	50	20R
GD024		151		477	30	52L
GD030		151	CONSOLE, FWD INSTR PNL			
GD031		151	CONSOLE, FWD CTR INSTR PNL			
GD036		151	COCKPIT OVHD	61	40	10L
GD037		151	COCKPIT OVHD	61	40	10L
GD040		150	CONSOLE, FWD CTR INSTR PNL			
GD066		151	PYLON	590	122	12L
GD068		151	PYLON	590	122	12L
GD077		151	PYLON	594	110	2L
GD080		151	PYLON	534	75	0
GD103		151	AFT CROWN	594	60	20R
GD135		151	AFT CROWN	528	45	20L
GD152		151	LH CABIN	230	-10	50L
GD157		151	RH CABIN	230	-20	50R
GD188		151	RH AFT	518	10	50R
GD203		151	RH AFT	518	10	50R
GD219		151	CONSOLE, FWD CTR INSTR PNL			
GD324		151	LH AFT	594	50	24L
TB 8			CONSOLE, FWD CTR INSTR PNL			
TB 36			COCKPIT, OVHD PNL - RH			
TB 37			COCKPIT, OVHD PNL - LH			
TB 55			FWD CABIN OVHD	120	42	28L
TB 56			FWD CABIN OVHD	120	42	28R
THE FOLLOWING TB'S ARE LOCATED IN MAINTENANCE PANEL, 146A3510				30	50R	
TB 2						
TB 3						
TB 4						
TB 5						
036P1	MS3476W10-6S	15	PLT INSTR PNL, CRUISE GUIDE IND			
036P3	M83723-95A1212N	31	PYLON, CRUISE GUIDE SIG PROC -J1	582	120	5R
036P4	M83723-95A12127	31	PYLON, CRUISE GUIDE SIG PROC -J2	582	120	5R
036P5	M83723-95A1212N	31	FWD XMSN AREA, CRUISE GUIDE -J1	120	65	12L
041P4	M83723-95A10058	30	FWD XMSN AREA, NO. 1 HYD PRESS	125	70	0
041P5	M83723-95A10058	30	PYLON, NO. 2 HYD PRESS	534	97	15R
041P6	M83723-95A10058	30	AFT CROWN, UTILITY HYD PRESS	534	45	15L
051P1	PT06CE8-4S	13	CPLT INSTR PNL TORQUE IND			
051P2	PT06CE8-4S	13	PLT INSTR PNL TORQUE IND			
051P3	MS3476W12-10S	17	CPLT INSTR PNL TORQUE IND			
051P4	MS3476W12-10S	17	PLT INSTR PNL TORQUE IND			
051P5	PT06CE8-4S	13	NOSE COMPT, NO. 1 TRQ PWR SUPPLY	22	-5	20L
051P6	PT06CE8-4S	13	NOSE COMPT, NO. 2 TRQ PWR SUPPLY	22	-5	20R
052P1	MS3456W14S-2S	48	CTR INSTR PNL NO. 1 ENG OIL TEMP IND			
052P2	MS3456W14S-2S	48	CTR INSTR PNL, NO. 2 ENG OIL TEMP IND			
053P1	MS3456W14S-2S	48	CTR INSTR PNL, NO. 1 ENG OIL PRESS IND			
053P2	MS3456W14S-2S	48	CTR INSTR PNL, NO. 2 ENG OIL PRESS IND			
054P1	MS3476W12-10S	17	CPLT INSTR PNL, ROTOR TACH			
054P2	MS3476W12-10S	17	PLT INSTR PNL, ROTOR TACH			
055P1	MS3456W10SL-3S	45	CTR INSTR PNL, NO. 1 ENG GAS PROD TACH			
055P2	MS3456W10SL-3S	45	CTR INSTR PNL, NO. 2 ENG GAS PROD TACH			
056P1	M83723-75A1407N	33	CTR INSTR PNL, NO. 1 PTIT IND			
056P2	M83723-75A1407N	33	CTR INSTR PNL, NO. 2 PTIT IND			
056P3	M24308/6-3	11	OVHD PNL, EMERG PWR PNL			
056J4	MS3450W10SL-3P	45	NO. 1 ENG DISC	490	45	50L
056P4	MS3456W10SL-3S	45	NO. 1 ENG DISC	490	45	50L
056J5	MS3450W10SL-3P	45	NO. 2 ENG DISC	490	45	50R
056P5	MS3476W10-6S	15	ENG, THERMOCOUPLE DISC			
057P3	MS3476W14-19S	21	CONSOL FLOOR, PILOT SIDE	57	-17	15R
057P4	M83723-75A2025N	153	J1 FUEL QTY SW BOX	232		2
057P6	M83723-75A20257	153	J3 FUEL QTY SW BOX	232		2
057P11	M83723-75A1624N	35	REFUEL PRECHECK PANEL			
061P1	MS3456W10SL-3S	45	CPLT INSTR PNL, TURN AND SLIP IND			
061P2	MS3456W10SL-3S	45	PLT INSTR PNL, TURN AND SLIP IND			
142P1	M83723-95A08036	29	FWD XMSN AREA, NO. 1 HYD TEMP BULB	150	50	6R
142P2	M83723-95A08036	29	PYLON, NO. 2 HYD TEMP BULB	510	80	12L
142P3	M83723-95A08036	29	PYLON, UTILITY HYD TEMP BULB	502	80	15R

GO TO NEXT PAGE

INSTRUMENT SYSTEM ELECTRICAL COMPONENT LOCATION AND CONFIGURATION LIST (Continued)

REF DESIG	PART NUMBER	TYPE	MATE WITH/LOCATION	STATION LOCATION FS	WL	BL
146J1	MS3474W20-41P	26	RH AFT, MAINTENANCE PANEL	510	25	50R
146J2	MS3474W22-55P	27	RH AFT, MAINTENANCE PANEL	510	25	50R
146P3	MS3476W10-6S	15	MAINT PNL, UTILITY HYD PRESS IND	510	30	50R
146P4	MS3476W10-6S	15	MAINT PNL, NO. 2 FLT HYD PRESS IND	510	30	50R
146P5	MS3476W10-6S	15	MAINT PNL, NO. 1 FLT HYD PRESS IND	510	30	50R
146P6	MS3476W10-6S	15	MAINT PNL, UTILITY HYD TEMP IND	510	30	50R
146P7	MS3476W10-6S	15	MAINT PNL, NO. 2 FLT HYD TEMP IND	510	30	50R
146P8	MS3476W10-6S	15	MAINT PNL, NO. 1 FLT HYD TEMP IND	510	30	50R
232P1	35303-11	26	CTR INSTR PNL — MSTR CAUTION PNL			
241P1	M83723-95A1212N	31	NO. 1 GENERATOR	575	60	15L
241P2	M83723-95A1212N	31	NO. 2 GENERATOR	575	60	15R
300J2	M83723-74A2255N	42	NO. 1 PDP			
300P2	M83723-75A2255N	42	NO. 1 PDP			
300J4	M83723-74A2461N	43	NO. 1 PDP			
300P4	M83723-75A2461N	43	NO. 1 PDP			
300J5	M83723-74A2041N	40	NO. 2 PDP			
300P5	M83723-75A2041N	40	NO. 2 PDP			
300J6	M83723-74A24616	43	NO. 2 PDP			
300P6	M83723-75A24616	43	NO. 2 PDP			
300J7	M83723-74A2255N	42	NO. 2 PDP			
300P7	M83723-75A2255N	42	NO. 2 PDP			
300J8	M83723-74A2461N	42	NO. 2 PDP			
300P8	M83723-75A2461N	42	NO. 2 PDP			
300J11	M83723-73A2255N	42	CONSOLE-UNDERFLOOR DISCONNECT	85	-20	
300P11	M83723-76A2255N	42	CONSOLE-UNDERFLOOR DISCONNECT	85	-20	
300J15	M83723-74A24617	43	CONSOLE-UNDERFLOOR DISCONNECT	85	-20	
300P15	M83723-75A24617	43	CONSOLE-UNDERFLOOR DISCONNECT	85	-20	
300J17	M83723-74A2255N	42	CONSOLE-UNDERFLOOR DISCONNECT	85	-20	
300P17	M83723-75A2255N	42	CONSOLE-UNDERFLOOR DISCONNECT	85	-20	
300J18	M83723-73A2041N	40	OVERHEAD PANEL — COCKPIT			
300P18	M83723-76A2041N	40	OVERHEAD PANEL — COCKPIT			
300J19	M83723-73A2041N	40	OVERHEAD PANEL — COCKPIT			
300P19	M83723-76A2041N	40	OVERHEAD PANEL — COCKPIT			
300J22	M83723-73A20416	40	OVERHEAD PANEL — COCKPIT			
300P22	M83723-76A20416	40	OVERHEAD PANEL — COCKPIT			
300J23	M83723-74A2255N	42	OVERHEAD PANEL — COCKPIT			
300P23	M83723-75A2255N	42	OVERHEAD PANEL — COCKPIT			
300P28	MS3476W22-55S	27	MAINTENANCE PANEL — J2	510	25	50R
300P31	MS3476W20-41S	26	MAINTENANCE PANEL — J1	510	25	50R
300J32	M83723-84K2255N	42	NO. 2 ENG DISCONNECT PAN, RCPT	590	40	50R
300J33	M83723-84K2255N	42	NO. 1 ENG DISCONNECT PAN, RCPT	590	40	50L
300J35	MS3474W16-26P	24	LH CABIN L MAIN TANK RCPT	260	-10	50L
300J37	MS3474W16-26P	24	RH CABIN R MAIN TANK RCPT	260	-10	50R
300J42	M83723-74A2255N	42	ELECTRONICS COMPARTMENT	105	40	20L
300P42	M83723-75A2255N	42	ELECTRONICS COMPARTMENT	105	40	20L
300J43	M83723-74A2255N	42	HEATER COMPARTMENT	105	40	30R
300P43	M83723-75A2255N	42	HEATER COMPARTMENT	105	40	30R
300J44	M83723-74A2461N	43	PYLON WL 72, DISC	528	72	18L
300P44	M83723-75A2461N	43	PYLON WL 72, DISC	528	72	18L
300J45	M83723-73A2461N	43	HEATER COMPARTMENT	105	40	30R
300P45	M83723-76A2461N	43	HEATER COMPARTMENT	105	40	30R
300J47	M83723-74A2461N	43	HEATER COMPARTMENT	105	40	30R
300P47	M83723-75A2461N	43	HEATER COMPARTMENT	105	40	30R
300J48	M83723-74A2461N	43	ELECTRONICS COMPARTMENT	105	40	20L
300P48	M83723-75A2461N	43	ELECTRONICS COMPARTMENT	105	40	20L
300J50	M83723-73A2461N	43	ELECTRONICS COMPARTMENT — OVHD	120	40	20L
300P50	M83723-76A2461N	43	ELECTRONICS COMPARTMENT — OVHD	120	40	20L
300J51	M83723-74A2461N	43	AFT CROWN — OVHD	460	45	20R
300P51	M83723-75A2461N	43	AFT CROWN — OVHD	460	45	20R
300J53	M83723-74A2255N	42	AFT CROWN — OVHD	460	45	20R
300P53	M83723-75A2255N	42	AFT CROWN — OVHD	460	45	20R
300J54	M83723-74A2461N	43	AFT CROWN — OVHD	460	50	20L
300P54	M83723-75A2461N	43	AFT CROWN — OVHD	460	50	20L
300J55	M83723-73A2255N	42	ELECTRONICS COMPARTMENT	105	40	20L
300P55	M83723-76A2255N	42	ELECTRONICS COMPARTMENT	105	40	20L
300J56	M83723-73A2255N	42	HEATER COMPARTMENT	105	40	25R
300P56	M83723-76A2255N	42	HEATER COMPARTMENT	105	40	25R
300J58	M83723-73A22558	42	CONSOLE-UNDERFLOOR DISCONNECT	85	-20	
300P58	M83723-76A22558	42	CONSOLE-UNDERFLOOR DISCONNECT	85	-20	
300J61	M83723-73A24619	43	CONSOLE-UNDERFLOOR DISCONNECT	85	-20	
300P61	M83723-76A24619	43	CONSOLE-UNDERFLOOR DISCONNECT	85	-20	
300J62	M83723-73A2028N	39	CONSOLE-UNDERFLOOR DISCONNECT	85	-20	
300P62	M83723-76A2028N	39	CONSOLE-UNDERFLOOR DISCONNECT	85	-20	
300J63	M83723-73A2232N	41	CONSOLE-UNDERFLOOR DISCONNECT	85	-20	
300P63	M83723-76A2232N	41	CONSOLE-UNDERFLOOR DISCONNECT	85	-20	

INSTRUMENT SYSTEMS ELECTRICAL COMPONENT LOCATION AND CONFIGURATION LIST (Continued)

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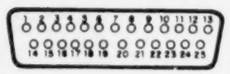

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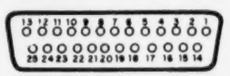

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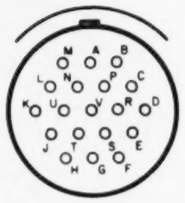

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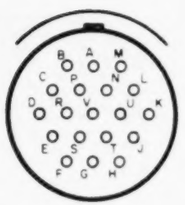

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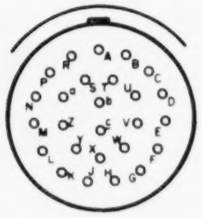

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INSTRUMENT SYSTEMS ELECTRICAL COMPONENT LOCATION AND CONFIGURATION LIST (Continued)

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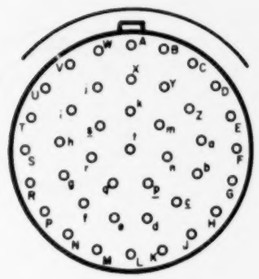

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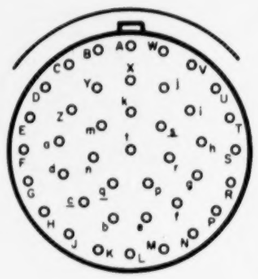

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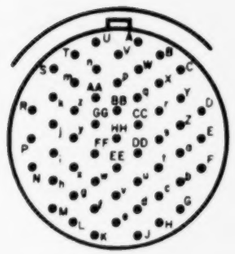

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DI45-11852-SPA

INSTRUMENT SYSTEM ELECTRICAL COMPONENT LOCATION AND CONFIGURATION LIST (Continued)

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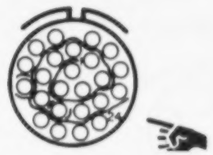

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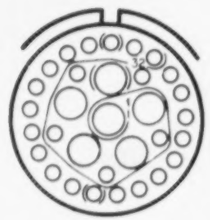

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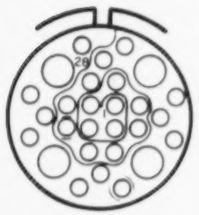

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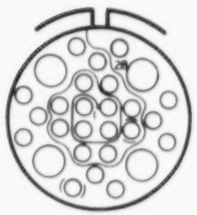

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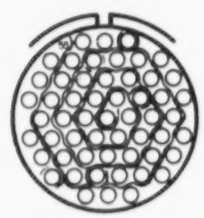

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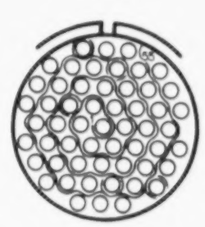

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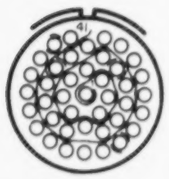

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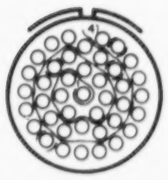

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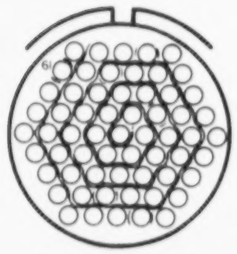

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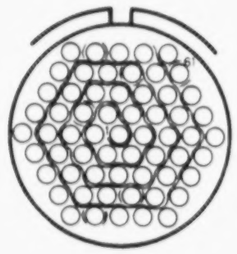

43

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INSTRUMENT SYSTEM ELECTRICAL COMPONENT LOCATION AND CONFIGURATION LIST (Continued)

RECEPTACLE

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RECEPTACLE

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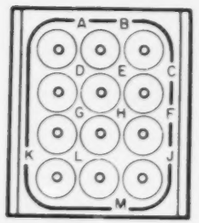
GND MODULE



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GND STUD

151

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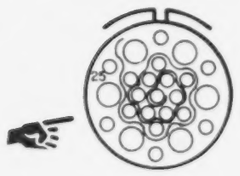

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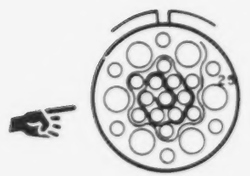

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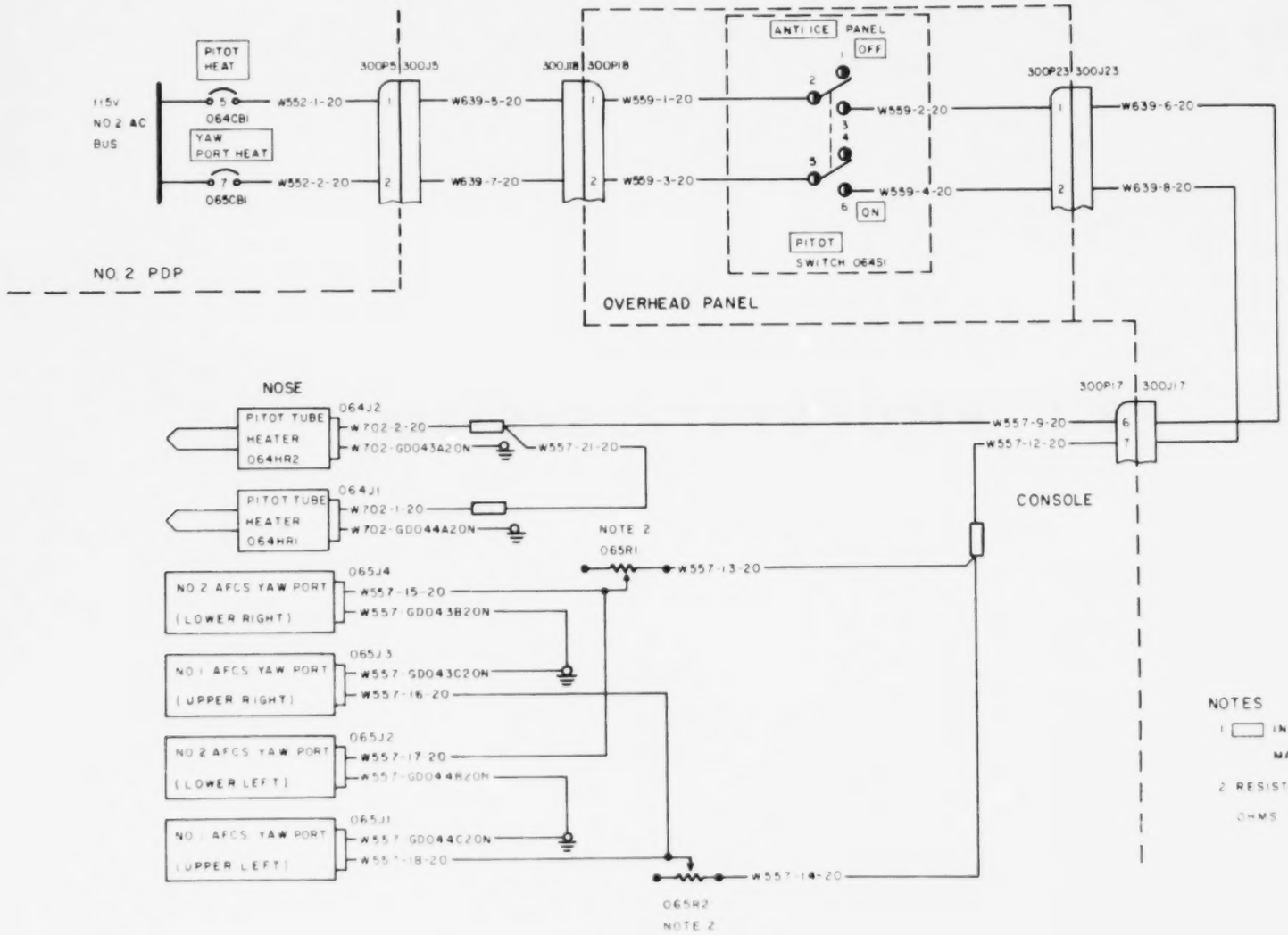
8-1 PITOT STATIC SYSTEM

8-1 PITOT STATIC SYSTEM

8-1.1 PITOT TUBE AND YAW PORT HEATERS WIRING DIAGRAM



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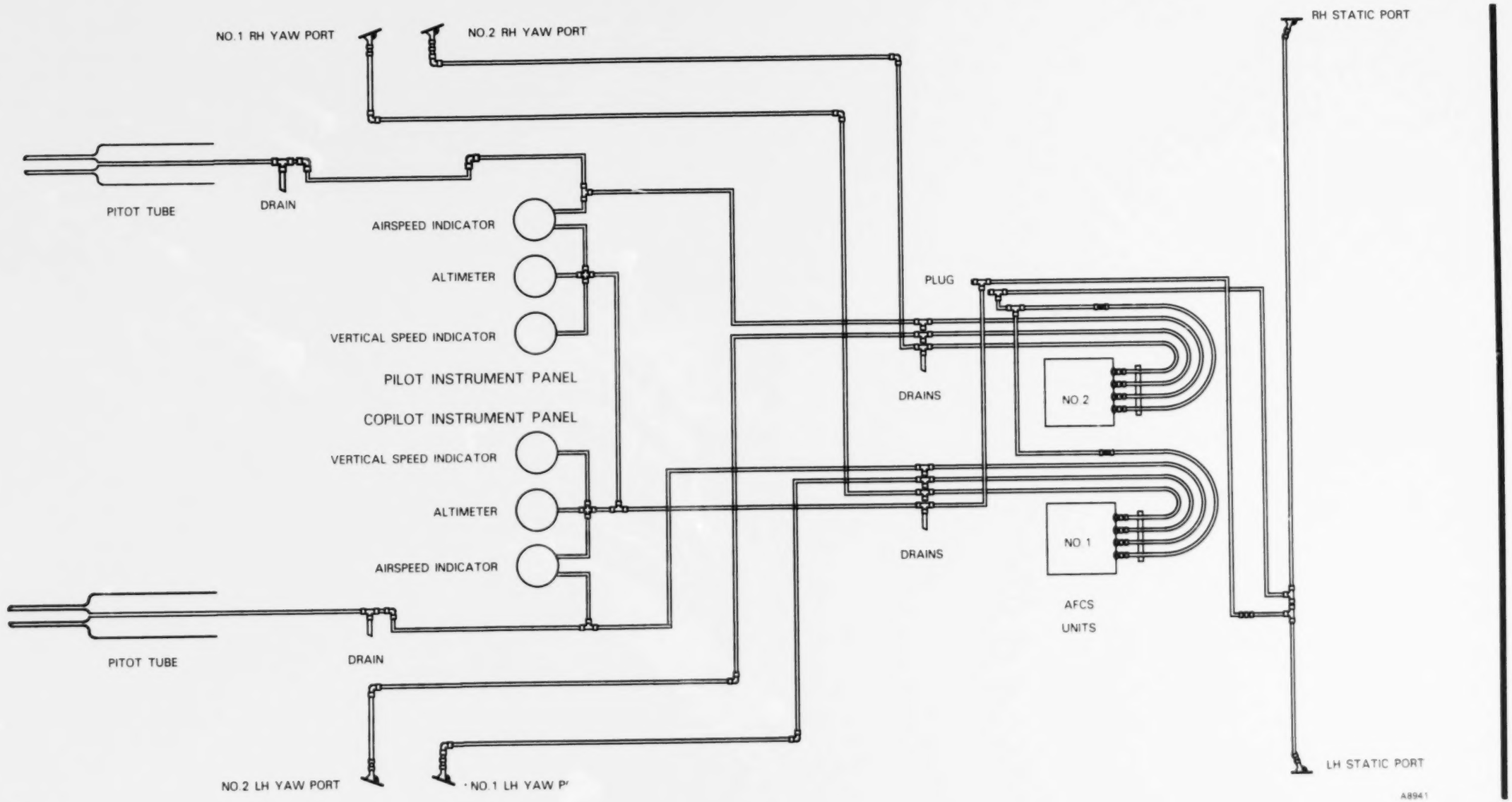
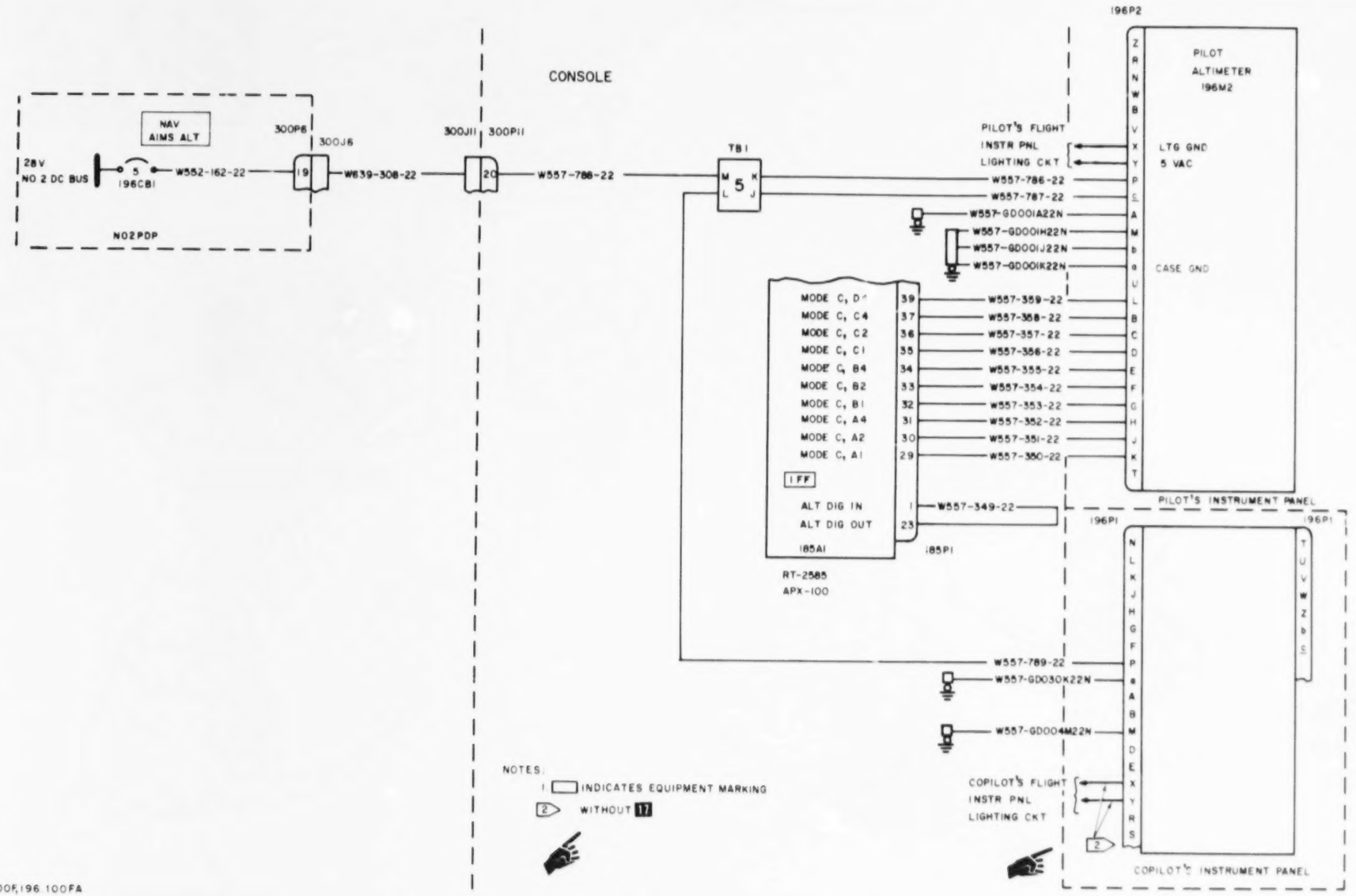
8-1.1.1 PITOT TUBE, YAW AND STATIC PORT TUBING SCHEMATIC



END OF TASK

8-1.2 AIMS ALTIMETER WIRING DIAGRAM



185, 100F, 196 100FA

90 X 48

8-1.3 PITOT STATIC SYSTEM VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

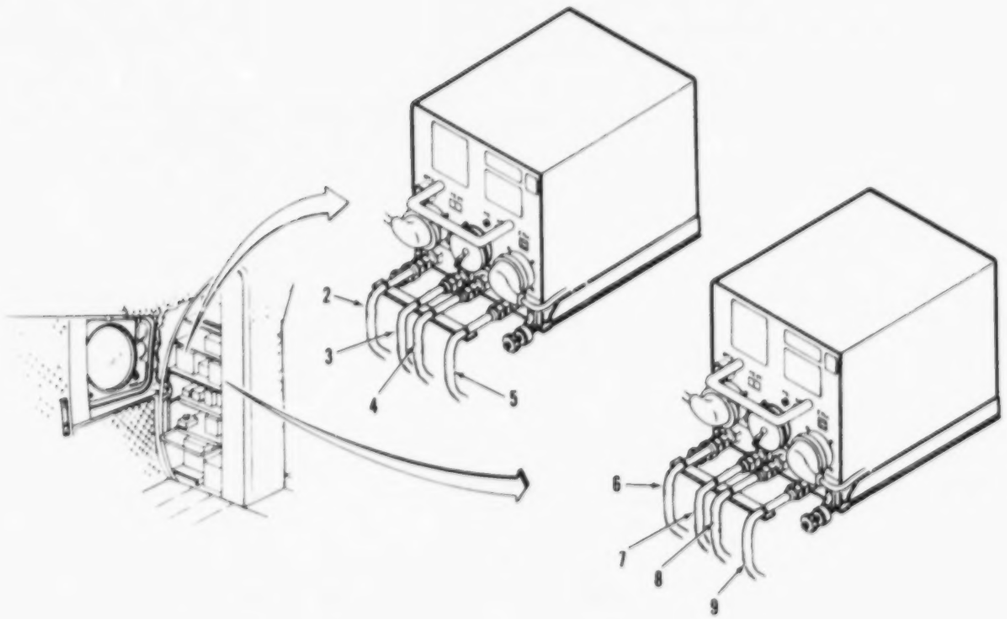
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

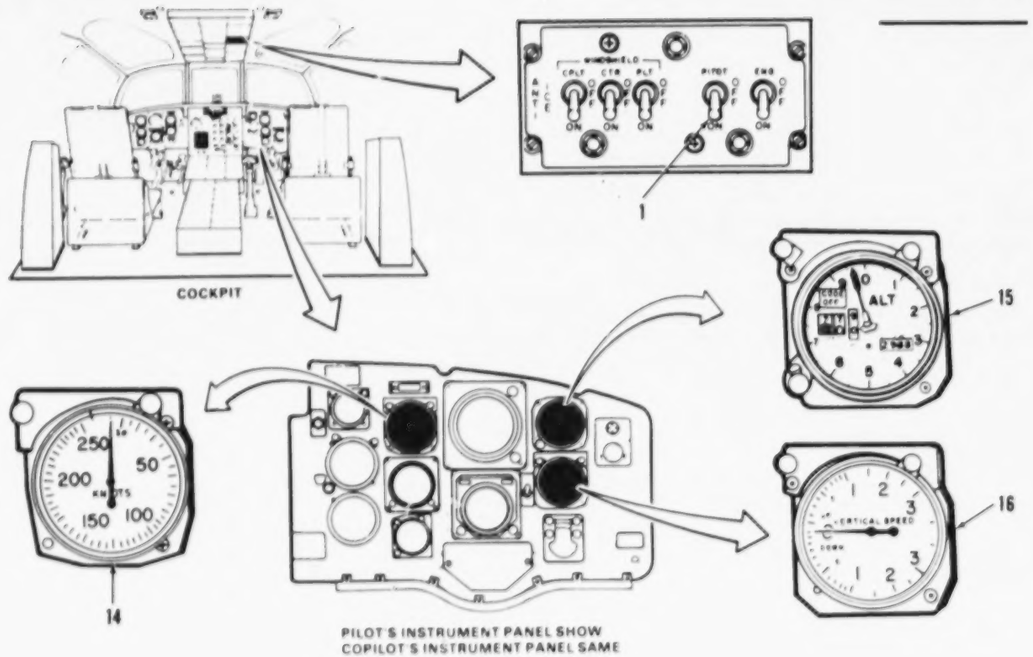
Materials:
None

Personnel Required:
68F10 Aircraft Electrician

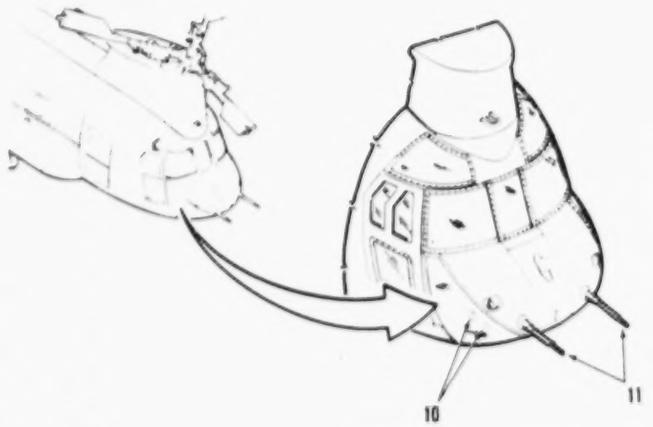
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Electronic Compartment Acoustic Blanket Removed





PILOT'S INSTRUMENT PANEL SHOW
COPILOT'S INSTRUMENT PANEL SAME



RIGHT YAW PORTS SHOWN
LEFT YAW PORTS SAME

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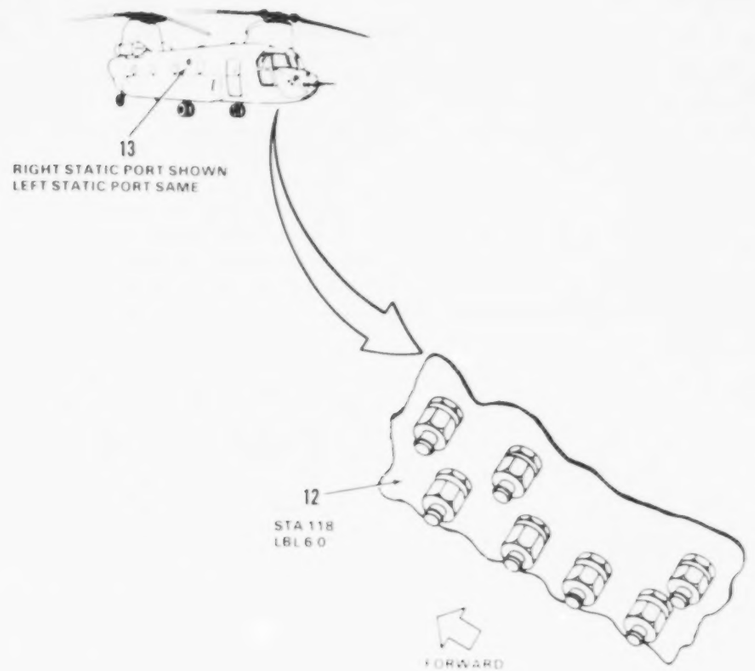
8-1.3 PITOT STATIC SYSTEM VISUAL CHECK (Continued)

	TASK	RESULT
1	**Check PITOT switch (1).**	If switch (1) is loose or damaged, tighten or replace as required.
2	**Check NO. 1 AFCS computer static (2), pitot (3), left (4), and right (5) sideslip line and fittings.**	If lines are kinked or damaged, straighten or replace them as required. If fittings are loose or damaged, tighten or replace them as required.
3	**Check NO. 2 AFCS computer static (6), pitot (7), left (8), and right (9) sideslip lines and fittings.**	If lines are kinked or damaged, straighten or replace them as required. If fittings are loose or damaged, tighten or replace them as required.
4	**Check left** and **right yaw ports (10).**	If holes in ports (10) are clogged or ports are damaged, clean ports or replace them as required.
5	**Check left** and **right pitot masts (11).**	If either pitot mast (11) is loose or damaged, tighten or replace it as required.
6	**Check pitot static system drains (12).**	If drains (12) are loose or damaged, tighten or replace them as required.
7	**Check static ports (13).**	If holes in ports (13) are clogged, or ports are damaged, clean parts or replace them as required.
8	**Check pilot's** and **copilot's airspeed indicators (14).**	If either indicator (14) is loose or damaged tighten or replace it as required.
9	**Check pilot's** and **copilot's altimeters (15).**	If either altimeter (15) is loose or damaged, tighten or replace it as required.
10	**Check pilot's** and **copilot's vertical speed indicators (16).**	If either indicator (16) is loose or damaged, tighten or replace it as required.



FOLLOW-ON MAINTENANCE

None

45 X 54

END OF TASK

8-1.4 PITOT STATIC SYSTEM OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

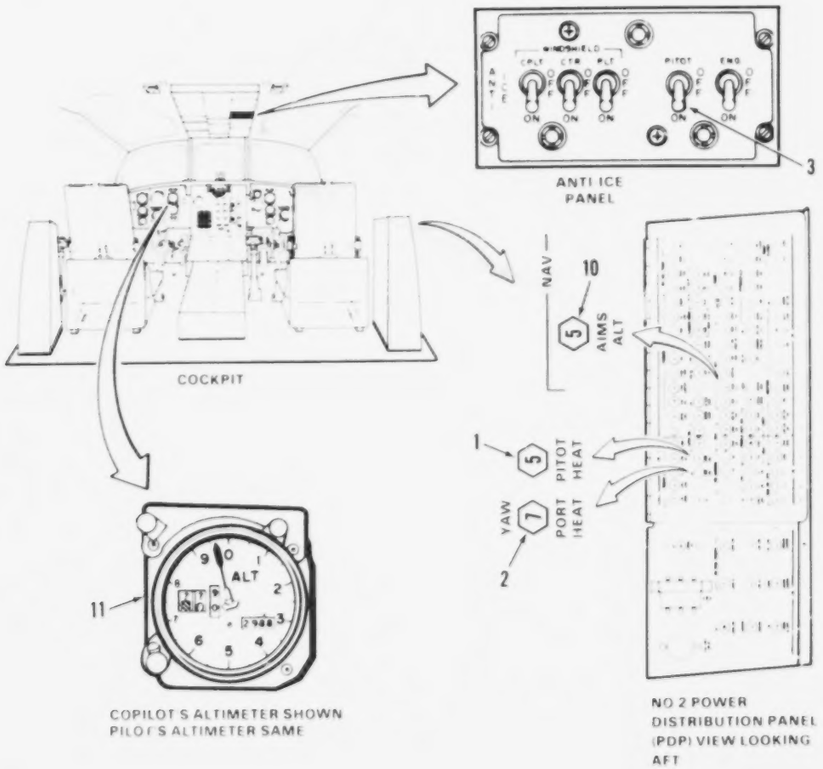
Tools:
Electrical Repairer's Tool Kit.
NSN 5180-00-323-4915
Pitot and Static Systems Tester
NSN 4920-00-475-7161
Workstand

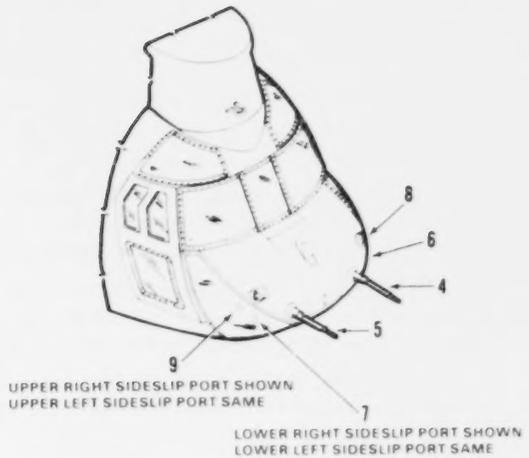
Materials:
Barrier Material (E80)
Masking Tape (E388)

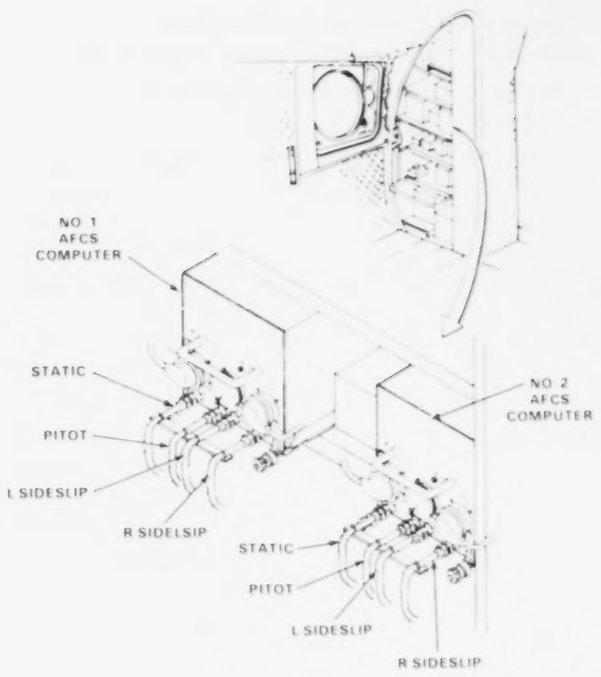
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

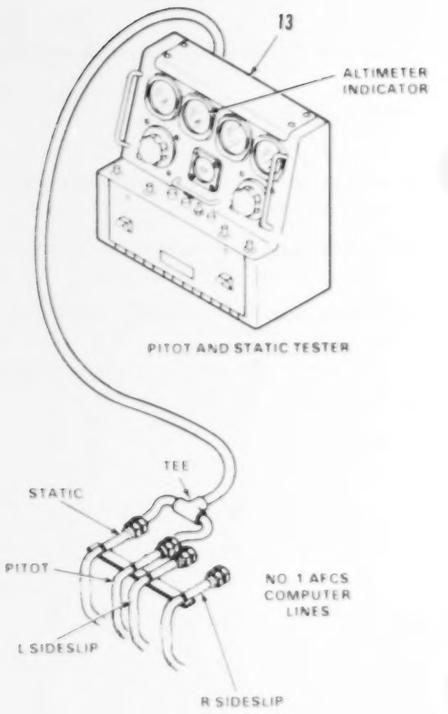
References:
TM 55-1520-240-23
TM 55-4920-231-14

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off
Visual Check of Pitot Static System Performed (Task 8-1.3)









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8-1.4 PITOT STATIC SYSTEM OPERATIONAL CHECK (Continued)

TASK	RESULT
PITOT MAST AND SIDESLIP PORTS HEATER CHECK	
1 **Check that PITOT HEAT circuit breaker (1) is closed.**	If circuit breaker (1) is open, close it. If it opens again go to task 8-1.5.
2 **Check that YAW PORT HEAT circuit breaker (2) is closed.**	If circuit breaker (2) in open, close it. If it opens again go to task 8-1.6.
3 **Set PITOT switch (3) to ON.**	Hold hand close to left and right pitot tubes (4 and 5) but do not touch them and feel for heat. If heat is not present go to task 8-1.7.
WARNING **The pitot tube and sideslip ports get very hot and can burn personnel when heaters are on.**	Hold hand close to lower left and lower right sideslip ports (6 and 7) but do not touch them and feel for heat. If heat is not felt go to task 8-1.8.
CAUTION **Do not leave heaters on for more than 5 minutes. Ground operation shortens their service life.**	Hold hand close to upper left and upper right sideslip ports (8 and 9) but do not touch them and feel for heat. If heat is not felt, go to task 8-1.9.
4 **Set PITOT switch (3) to OFF.**	
ALTIMETER VIBRATOR CHECK	
5 Check that **NAV AIMS ALT** circuit breaker (10) is **closed.**	If circuit breaker (10) is open, close it. If it opens again, go to task 8-1.10.
6 **Check pilot's and copilot's altimeters (11).**	Place ear close to altimeters (11) and listen for a vibration. If vibration can not be heard, go to task 8-1.11.
PITOT/STATIC SYSTEM CHECK	
CAUTION **Do not put tape directly over holes in static ports or pitot tube drain holes. Adhesive on tape will clog holes.**	
7 **Cover holes in static ports (12). Use barrier material (E67). Secure material with masking tape (E337). Cap the right and left pitot masts (4 and 5). Seal drain holes in each pitot mast using barrier material and masking tape.**	
8 **At NO. 1 AFCS computer, disconnect pitot and static tubing compression sleeve fittings anp connect pitot and static lines to tester (13).**	
9 **At NO. 2 AFCS computer, disconnect pitot and static tubing compression sleeve fittings anp connect lines together.**	
CAUTION **Do not apply pressure to static line. Damage to altimeters can result.**	
10 **Adjust vacuum at a rate less than 3,000 feet per minute until tester (13) altimeter reads 20,000 feet.** Shut off vacuum pressure. **NOTE** Altimeter reading must be corrected for tester leak rate. Refer to TM 55-4920-231-14.	Tester (13) altimeter reading shall not decrease more than 2,000 feet in 5 minutes. If it does, go to task 8-1.12.
11 **Disconnect tester (13). At both AFCS computers disconnect** pitot and **static lines from test circuit and connect them to their respective AFCS computers.**	

GO TO NEXT PAGE

8-1.4 PITOT STATIC SYSTEM OPERATIONAL CHECK (Continued)

TASK	RESULT

PITOT SYSTEM CHECK

CAUTION

Do not apply vacuum to pitot lines. Damage to airspeed indicators can results.

12 At both AFCS computers disconnect and cap off both pitot tube compression sleeve fittings

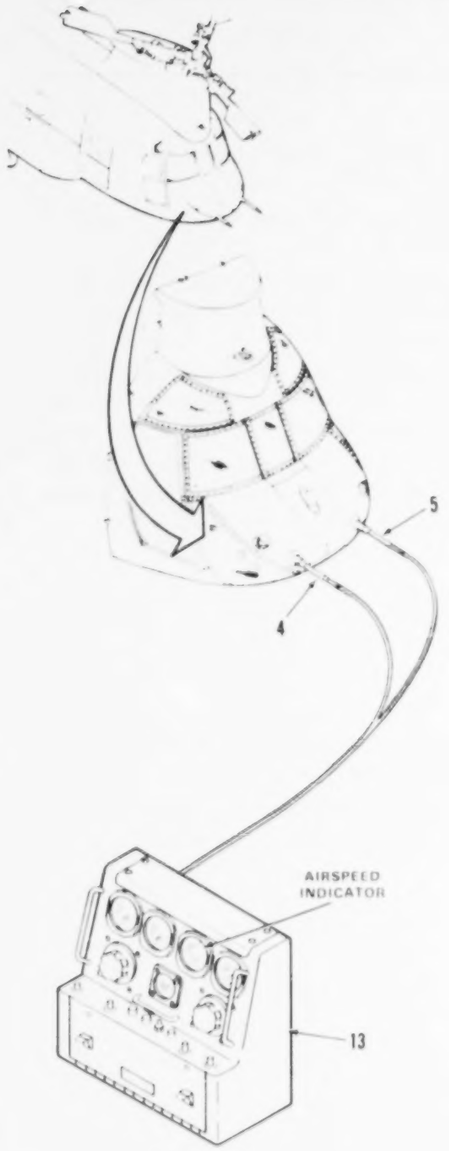
13 Connect tester (13) to both pitot masts (4 and 5) and adjust pressure for an airspeed indication of 150 knots on tester airspeed indicator. Shut off pressure

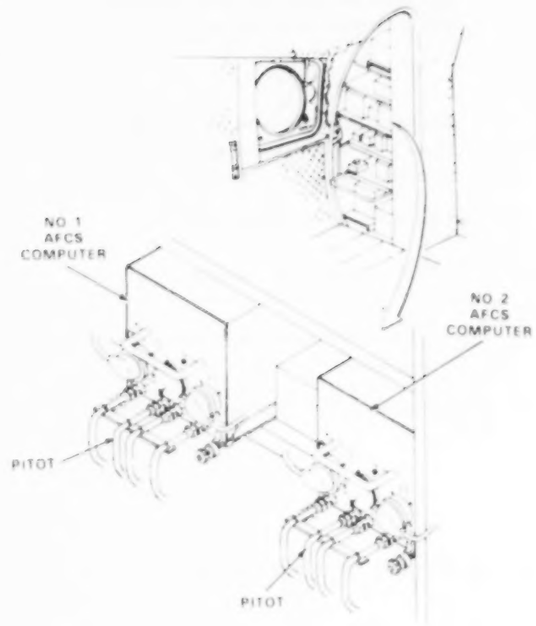
Airspeed shall not decrease more than 10 knots in 5 minutes. If it does leak, go to task 8-1.13

NOTE

- Airspeed must be corrected for tester leak rate. Refer to TM 55-4920-231-14
- If PITOT system does not leak and there is a log book entry indicating a pitot leak, check AFCS computer in suspected system amd replace AFCS computer with a pitot leak.

14 Disconnect tester (13) from both pitot masts (4 and 5). Remove caps and connect compression sleeve fittings to there respective AFCS computers.





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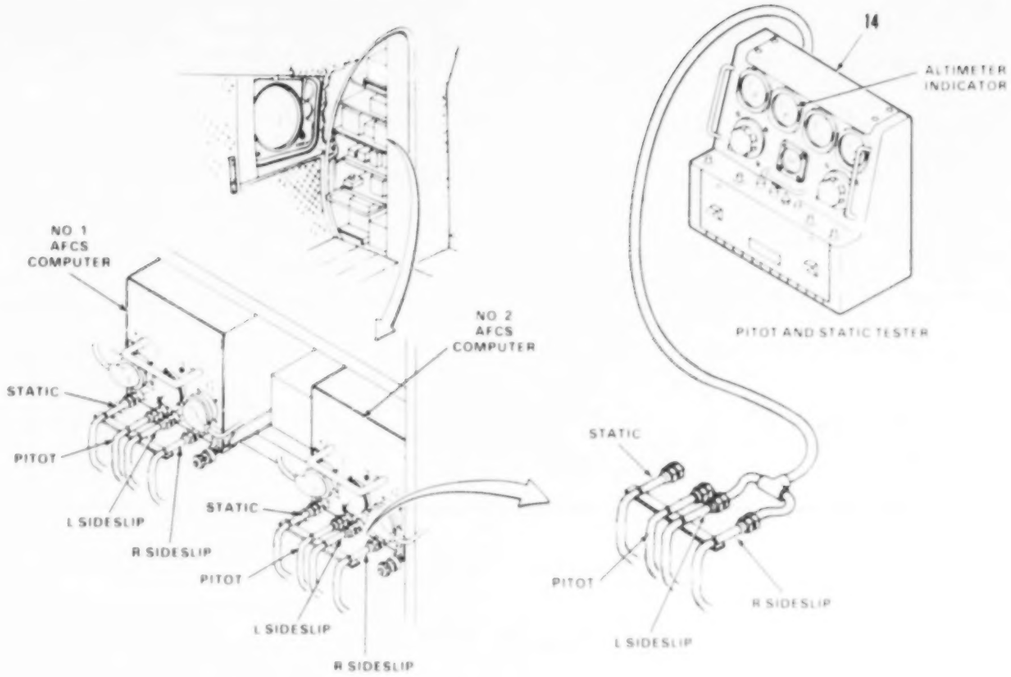
8-1.4 PITOT STATIC SYSTEM OPERATION CHECK (Continued)

TASK	RESULT
SIDESLIP LEAK TEST	
15 **Cover holes in sideslip ports (6, 7, 8 and 9). Use barrier material (C67) and secure with masking tape (C337).**	
16 **Disconnect NO. 1 AFCS left and right sideslip tubing compression sleeve fittings and connect to vacuum port on tester.**	
17 **Adjust vacuum at a rate less than 3,000 feet per minute until tester (13) altimeter reads 20,000 feet.**	Shut off vacuum pressure. Tester (13) altimeter readings shall not decrease more than 2,000 feet in 5 minutes. If it does, go to task 8-1.14
18 **Remove tester (13) from NO. 1 AFCS left and right sideslip tubing compression sleeve fittings and connect fittings to their respective fittings on NO. 1 AFCS computer.**	
19 **Disconnect NO. 2 AFCS left and right sideslip tubing compression sleeve fittings and connect to vacuum port on tester.**	
20 **Adjust vacuum at a rate less than 3,000 feet per minute until tester (13) altimeter reads 20,000 feet.**	Shut off vacuum pressure. Tester (13) altimeter readings shall not decrease more than 2,000 feet in 5 minutes. If it does, go to task 8-1.14
21 **Remove tester (13) from NO. 2 AFCS left and right sideslip tubing compression sleeve fitting and connect fittings to their respective fittings on NO. 2 AFCS computer.**	
22 Remove tape and barrier material from all four sideslip ports.	
If circuit breaker (1) is open, close it. If it opens again go to task 8-1.5.	



FOLLOW-ON MAINTENANCE

TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Electronic Compartment Acoustic Blanket Installed

45X14

END OF TASK

8-1.5 PITOT HEAT CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

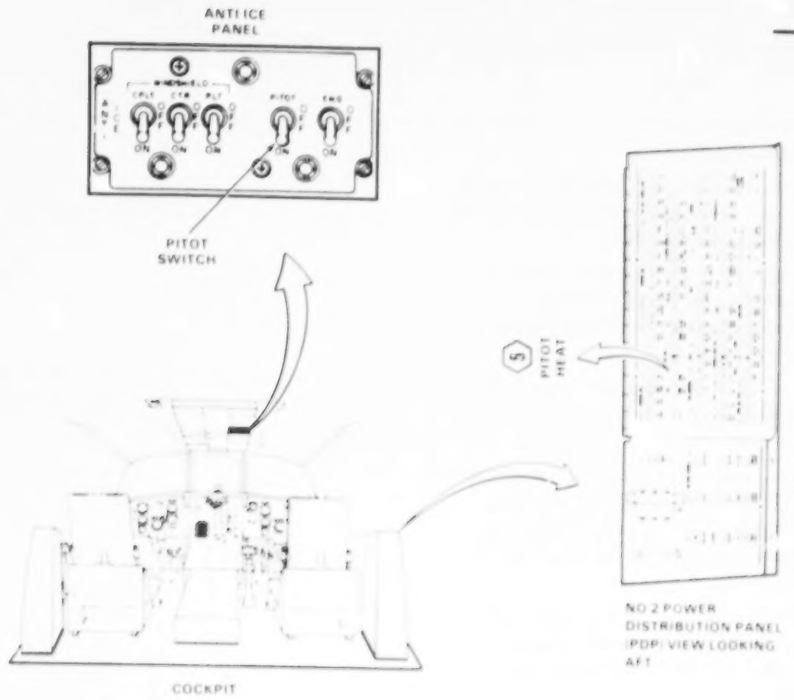
Materials:
None

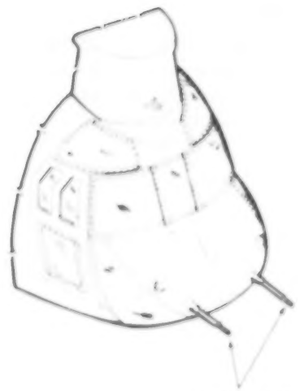
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off

DOES PITOT HEAT CB OPEN BEFORE PITOT SWITCH IS SET TO ON?
YES
REMOVE ELEC PWR AND LOWER ANTI ICE PNL CHECK FOR SHORT BETWEEN PITOT SWITCH 064S1 TERM 2 AND GROUND IS GROUND PRESENT?
YES
LOCATE SHORT ON WIRES W559 1 20 W639 5 20 OR W552 1 20 BETWEEN SWITCH 064S1 TERM 2 AND PITOT HEAT CB 064CB1 REPAIR OR REPLACE WIRES AS REQUIRED
NO
NO
REPLACE PITOT HEAT CIR CUIT BREAKER
REMOVE ELEC PWR AND LOWER ANTI ICE PNL REMOVE WIRE W559 2 20 FROM SWITCH 064S1 TERM 3 CHECK FOR SHORT BETWEEN WIRE W559 2 20 AND GROUND IS SHORT PRESENT?
YES
DISCONNECT CONNECTOR 300P17 AND CHECK FOR SHORT BETWEEN RECEPTACLE 300J17 PIN 6 AND GROUND IS SHORT PRESENT?
YES
LOCATE SHORT ON WIRES W639 9 20 OR W559 2 20 BETWEEN RECEPTACLE 064J17 PIN 6 AND SWITCH 064S1 TERM 3 REPAIR OR REPLACE WIRE AS REQUIRED
NO
NO
REPLACE PITOT SWITCH
LOCATE SHORT ON WIRES W557 9 20 W702 2 20 W557 21 20 OR W702 1 20 BETWEEN CONNECTOR 300P17 PIN 6 AND BOTH PITOT TUBE HEATER CONNECTORS 064J1 AND 064J2 REPAIR OR RE PLACE WIRE AS REQUIRED





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END OF TASK

8-1.6 YAW PORT HEAT CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

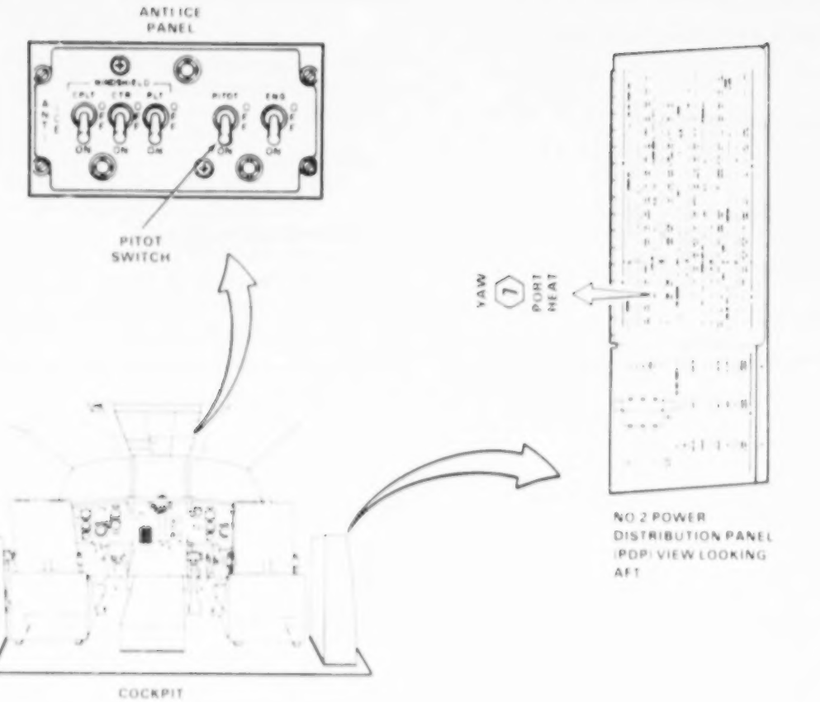
Materials:
None

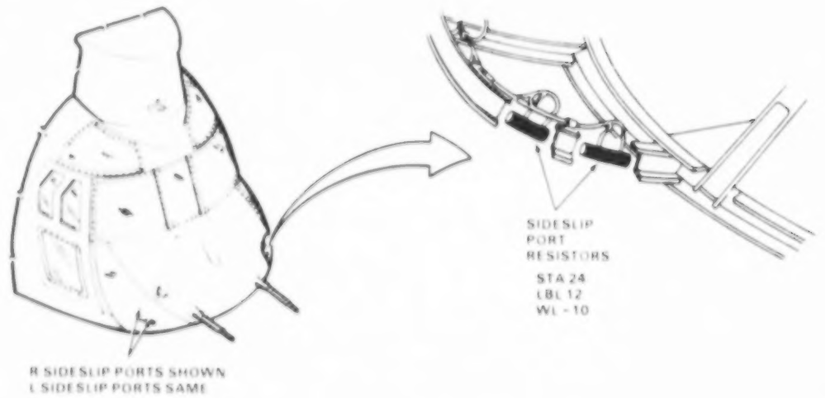
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off

DOES YAW PORT HEAT CB OPEN BEFORE PITOT SWITCH IS SET ON?
YES
REMOVE ELEC PWR AND LOWER ANTI ICE PNL. CHECK FOR SHORT BETWEEN PITOT SWITCH 06451 TERM 5 AND GROUND. IS SHORT PRESENT?
YES
LOCATE SHORT ON WIRES W559-3-20, W633-7-20, OR W555-2-20 BETWEEN SWITCH 06451 TERM 5 AND YAW PORT HEAT CB 064CB1. REPAIR OR REPLACE WIRES AS REQUIRED.
NO
NO
REPLACE YAW PORT HEAT CIRCUIT BREAKER.
NO
REMOVE ELEC PWR AND LOWER ANTI ICE PNL. REMOVE WIRE W559-4-20 FROM SWITCH 06451 TERM 6. CHECK FOR SHORT BETWEEN WIRE W559-4-20 AND GROUND. IS SHORT PRESENT?
YES
DISCONNECT CONNECTOR 300P17 AND CHECK FOR SHORT BETWEEN RECEPTACLE 300J17 PIN 7 AND GROUND. IS SHORT PRESENT?
YES
LOCATE SHORT ON WIRE W639-8-20 OR W559-4-20 BETWEEN RECEPTACLE 064J17 PIN 7 AND SWITCH 06451 TERM 6. REPAIR OR REPLACE WIRES AS REQUIRED.
NO
NO
REPLACE PITOT SWITCH
LOCATE SHORT ON WIRES W557-12-20, W557-13-20, OR W557-13-29 BETWEEN CONNECTOR 300P17 AND RESISTORS 06581 AND 06582. REPAIR OR REPLACE WIRES AS REQUIRED.





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END OF TASK

8-1.7 NO HEAT FELT ON LEFT OR RIGHT PITOT TUBE, PITOT SWITCH AT ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

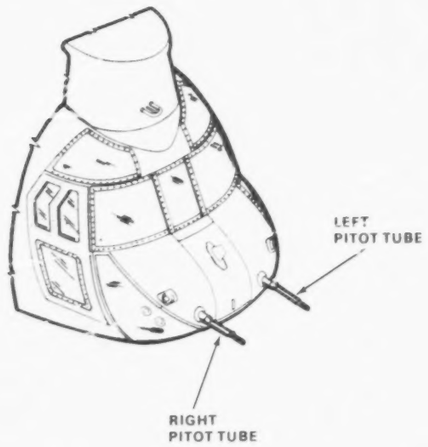
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

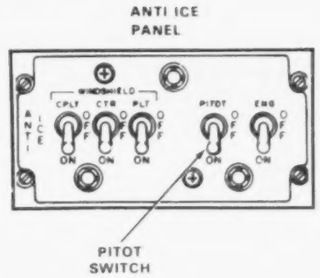
Materials:
None

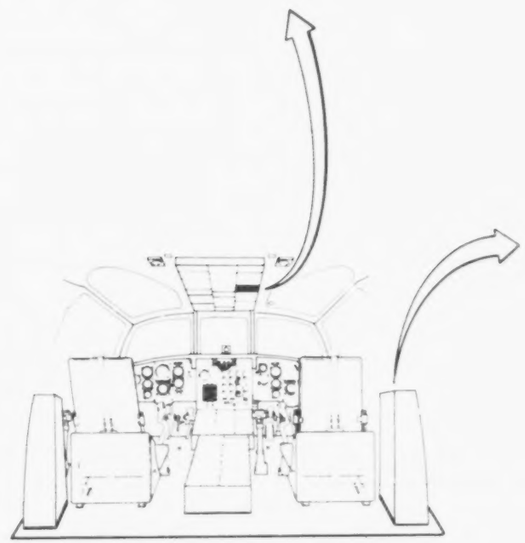
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

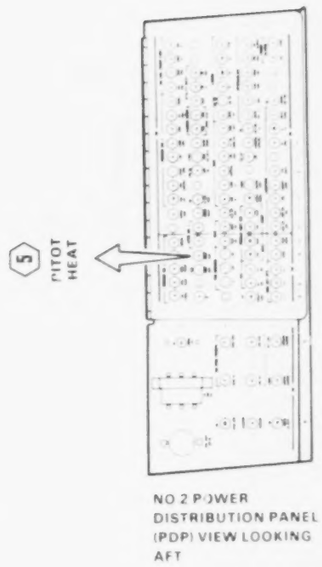
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off









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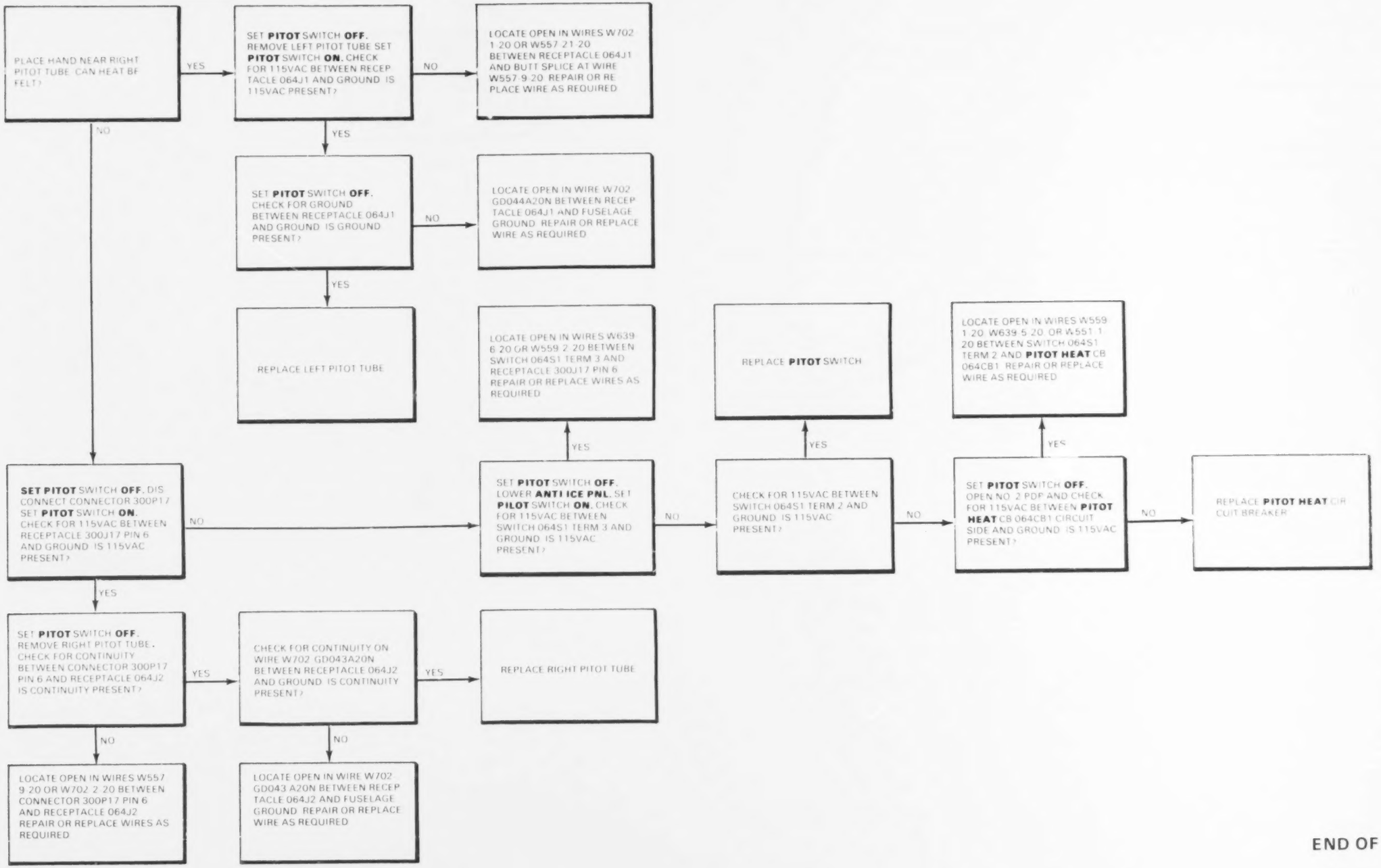
8-1.7 NO HEAT FELT ON LEFT OR RIGHT PITOT TUBE, PITOT SWITCH AT ON (Continued)


PLACE HAND NEAR RIGHT PITOT TUBE. CAN HEAT BE FELT?
YES
SET **PITOT** SWITCH **OFF**. REMOVE LEFT PITOT TUBE SET **PITOT** SWITCH **ON**. CHECK FOR 115VAC BETWEEN RECEPTACLE 064J1 AND GROUND. IS 115VAC PRESENT?
NO
LOCATE OPEN IN WIRES W702-1-20 OR W557-21-20 BETWEEN RECEPTACLE 064J1 AND BUTT SPLICE AT WIRE W557-9-20. REPAIR OR REPLACE WIRE AS REQUIRED
YES
SET **PITOT** SWITCH **OFF**. CHECK FOR GROUND BETWEEN RECEPTACLE 064J1 AND GROUND. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W702-GD044A20N BETWEEN RECEPTACLE 064J1 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE LEFT PITOT TUBE
NO
SET PITOT SWITCH **OFF**. DISCONNECT CONNECTOR 300P17. SET **PITOT** SWITCH **ON**. CHECK FOR 115VAC BETWEEN RECEPTACLE 300J17 PIN 6 AND GROUND. IS 115VAC PRESENT?
YES
SET **PITOT** SWITCH **OFF**. REMOVE RIGHT PITOT TUBE. CHECK FOR CONTINUITY BETWEEN CONNECTOR 300P17 PIN 6 AND RECEPTACLE 064J2. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY ON WIRE W702-GD043A20N BETWEEN RECEPTACLE 064J2 AND GROUND. IS CONTINUITY PRESENT?
YES
REPLACE RIGHT PITOT TUBE
NO
LOCATE OPEN IN WIRE W702-GD043A20N BETWEEN RECEPTACLE 064J2 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRES W557-9-20 OR W702-2-20 BETWEEN CONNECTOR 300P17 PIN 6 AND RECEPTACLE 064J2. REPAIR OR REPLACE WIRES AS REQUIRED
YES
SET **PITOT** SWITCH **OFF**. LOWER **ANTI ICE PNL**. SET **PILOT** SWITCH **ON**. CHECK FOR 115VAC BETWEEN SWITCH 064S1 TERM 3 AND GROUND. IS 115VAC PRESENT?
NO
LOCATE OPEN IN WIRES W639-6-20 OR W559-2-20 BETWEEN SWITCH 064S1 TERM 3 AND RECEPTACLE 300J17 PIN 6. REPAIR OR REPLACE WIRES AS REQUIRED
YES
CHECK FOR 115VAC BETWEEN SWITCH 064S1 TERM 2 AND GROUND. IS 115VAC PRESENT?
NO
REPLACE **PITOT** SWITCH
YES
SET **PITOT** SWITCH **OFF**. OPEN NO. 2 PDP AND CHECK FOR 115VAC BETWEEN **PITOT HEAT** CB 064CB1 CIRCUIT SIDE AND GROUND. IS 115VAC PRESENT?
NO
LOCATE OPEN IN WIRES W559-1-20, W639-5-20, OR W551-1-20 BETWEEN SWITCH 064S1 TERM 2 AND **PITOT HEAT** CB 064CB1. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE **PITOT HEAT** CIRCUIT BREAKER

END OF TASK

8-1.8 NO HEAT FELT ON LOWER RIGHT OR LOWER LEFT SIDESLIP PORTS

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

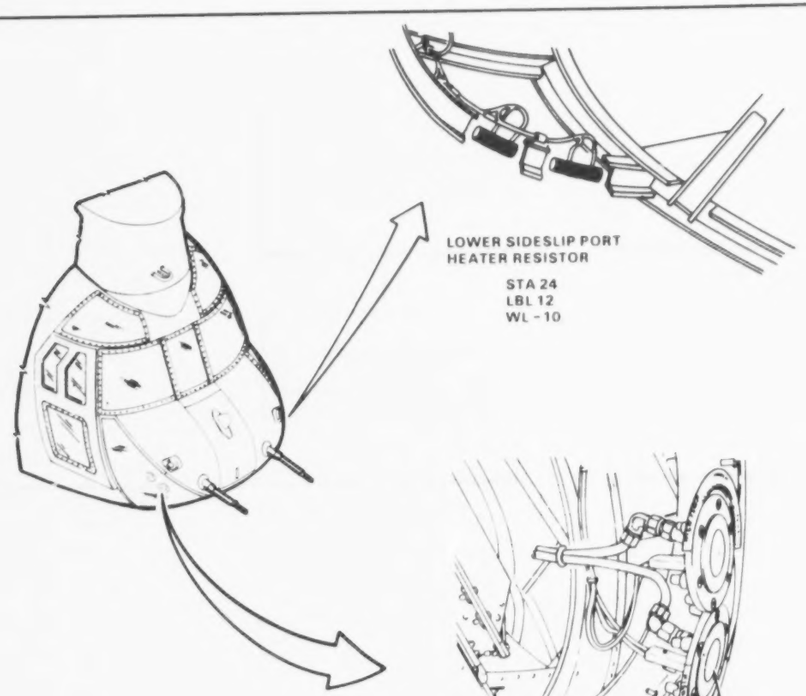
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

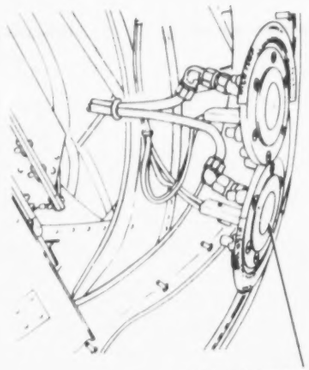
Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

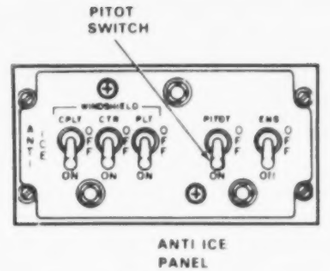
References:
TM 55-1520-240-23

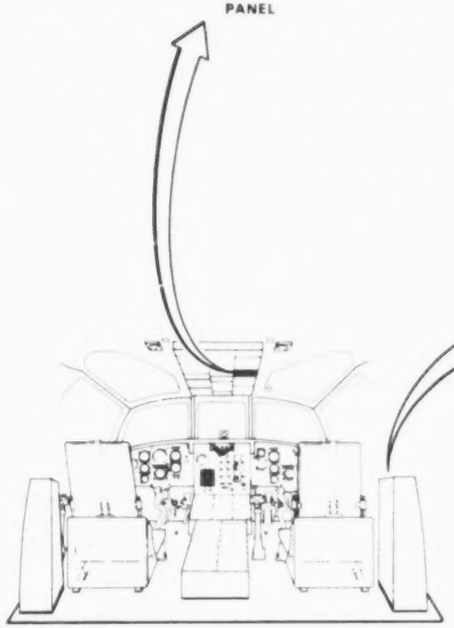
Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off
Nose Access Door Open





LOWER RIGHT SIDESLIP PORT SHOWN
LOWER LEFT SIDESLIP PORT SAME





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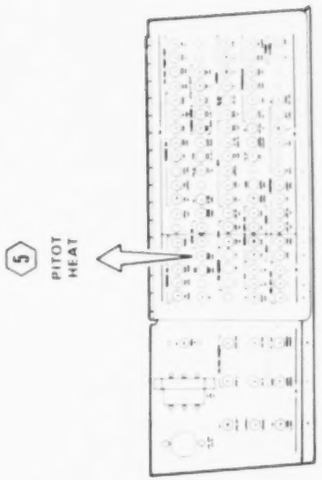

NO 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT

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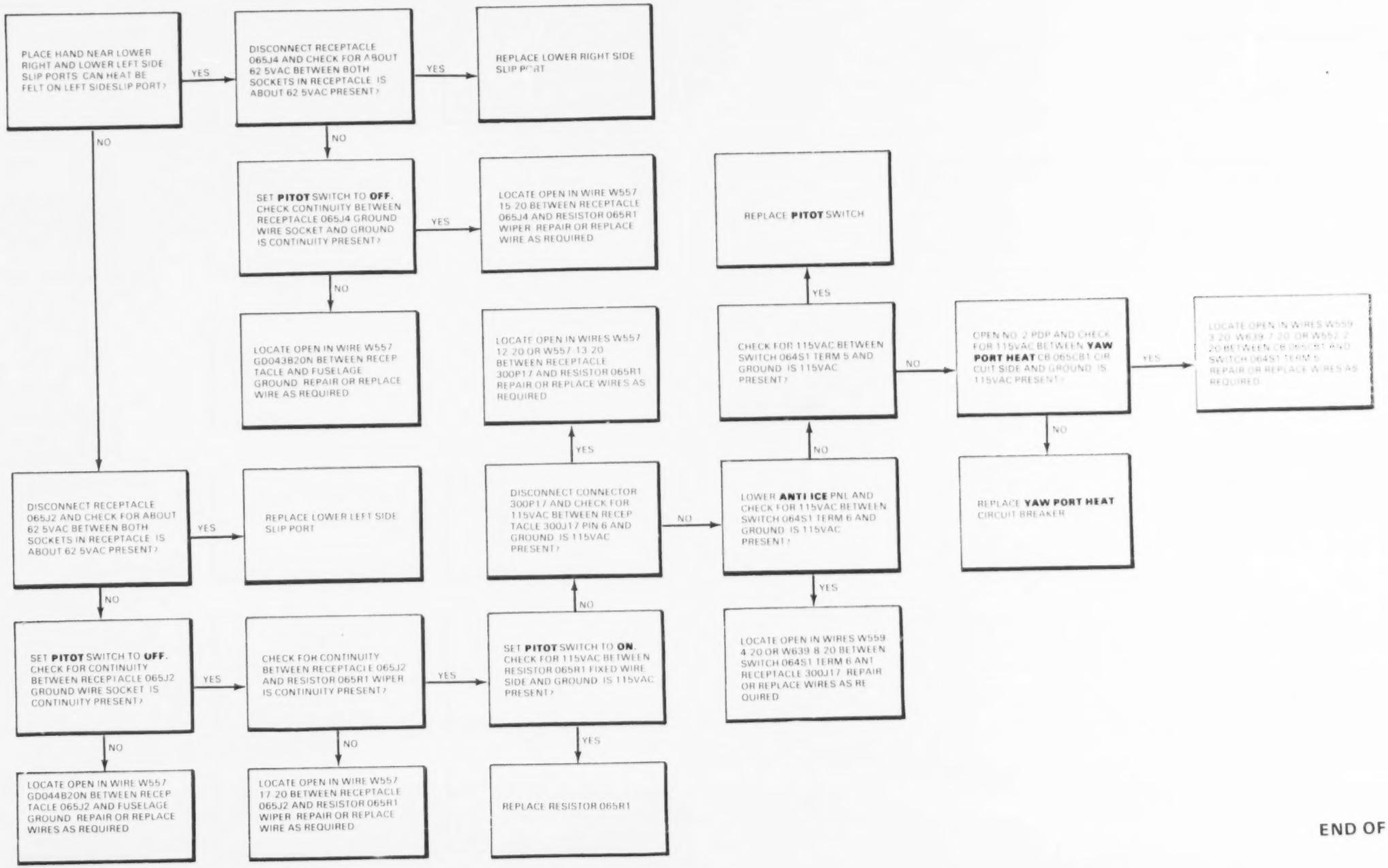
8-1.8 NO HEAT FELT ON LOWER RIGHT OR LOWER LEFT SIDESLIP PORTS (Continued)


PLACE HAND NEAR LOWER RIGHT AND LOWER LEFT SIDE SLIP PORTS. CAN HEAT BE FELT ON LEFT SIDESLIP PORT?
YES
DISCONNECT RECEPTACLE 065J4 AND CHECK FOR ABOUT 62.5VAC BETWEEN BOTH SOCKETS IN RECEPTACLE. IS ABOUT 62.5VAC PRESENT?
YES
REPLACE LOWER RIGHT SIDE SLIP PORT
NO
SET PITOT SWITCH TO OFF. CHECK CONTINUITY BETWEEN RECEPTACLE 065J4 GROUND WIRE SOCKET AND GROUND. IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRE W557 15.20 BETWEEN RECEPTACLE 065J4 AND RESISTOR 065R1 WIPER. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W557 GD043B20N BETWEEN RECEPTACLE AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE OPEN IN WIRES W557 12.20 OR W557-13.20 BETWEEN RECEPTACLE 300P17 AND RESISTOR 065R1. REPAIR OR REPLACE WIRES AS REQUIRED
REPLACE PITOT SWITCH
YES
CHECK FOR 115VAC BETWEEN SWITCH 064S1 TERM 5 AND GROUND. IS 115VAC PRESENT?
NO
OPEN NO. 2 PDP AND CHECK FOR 115VAC BETWEEN YAW PORT HEAT CB 065C81 CIRCUIT SIDE AND GROUND. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRES W559 3.20, W639.7.20, OR W552.7.20 BETWEEN CB 065C81 AND SWITCH 064S1 TERM 5. REPAIR OR REPLACE WIRES AS REQUIRED.
NO
REPLACE YAW PORT HEAT CIRCUIT BREAKER
DISCONNECT CONNECTOR 300P17 AND CHECK FOR 115VAC BETWEEN RECEPTACLE 300J17 PIN 6 AND GROUND. IS 115VAC PRESENT?
NO
LOWER ANTI ICE PNL AND CHECK FOR 115VAC BETWEEN SWITCH 064S1 TERM 6 AND GROUND. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRES W559 4.20 OR W639.8.20 BETWEEN SWITCH 064S1 TERM 6 AND RECEPTACLE 300J17. REPAIR OR REPLACE WIRES AS REQUIRED
YES
SET PITOT SWITCH TO ON. CHECK FOR 115VAC BETWEEN RESISTOR 065R1 FIXED WIRE SIDE AND GROUND. IS 115VAC PRESENT?
NO
YES
REPLACE RESISTOR 065R1
DISCONNECT RECEPTACLE 065J2 AND CHECK FOR ABOUT 62.5VAC BETWEEN BOTH SOCKETS IN RECEPTACLE. IS ABOUT 62.5VAC PRESENT?
YES
REPLACE LOWER LEFT SIDE SLIP PORT
NO
SET PITOT SWITCH TO OFF. CHECK FOR CONTINUITY BETWEEN RECEPTACLE 065J2 GROUND WIRE SOCKET. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN RECEPTACLE 065J2 AND RESISTOR 065R1 WIPER. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W557 GD044B20N BETWEEN RECEPTACLE 065J2 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRES AS REQUIRED
LOCATE OPEN IN WIRE W557 17.20 BETWEEN RECEPTACLE 065J2 AND RESISTOR 065R1 WIPER. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-1.9 NO HEAT FELT ON UPPER RIGHT OR UPPER LEFT SIDESLIP PORTS

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

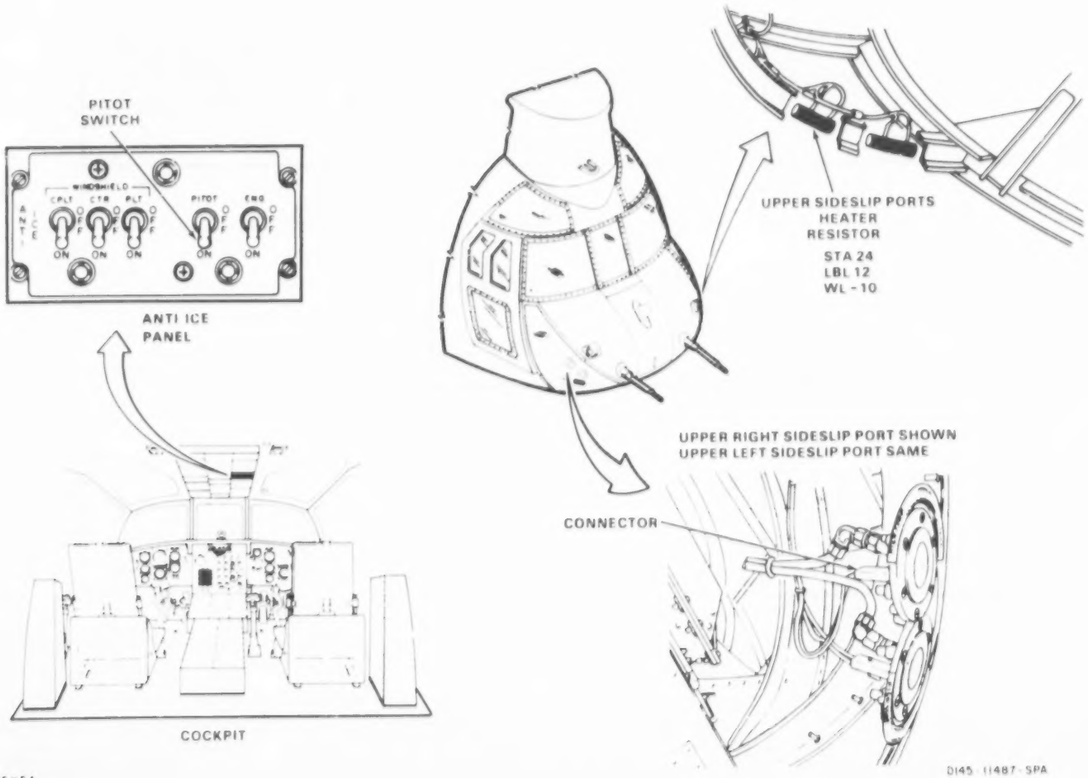
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Nose Access Door Open



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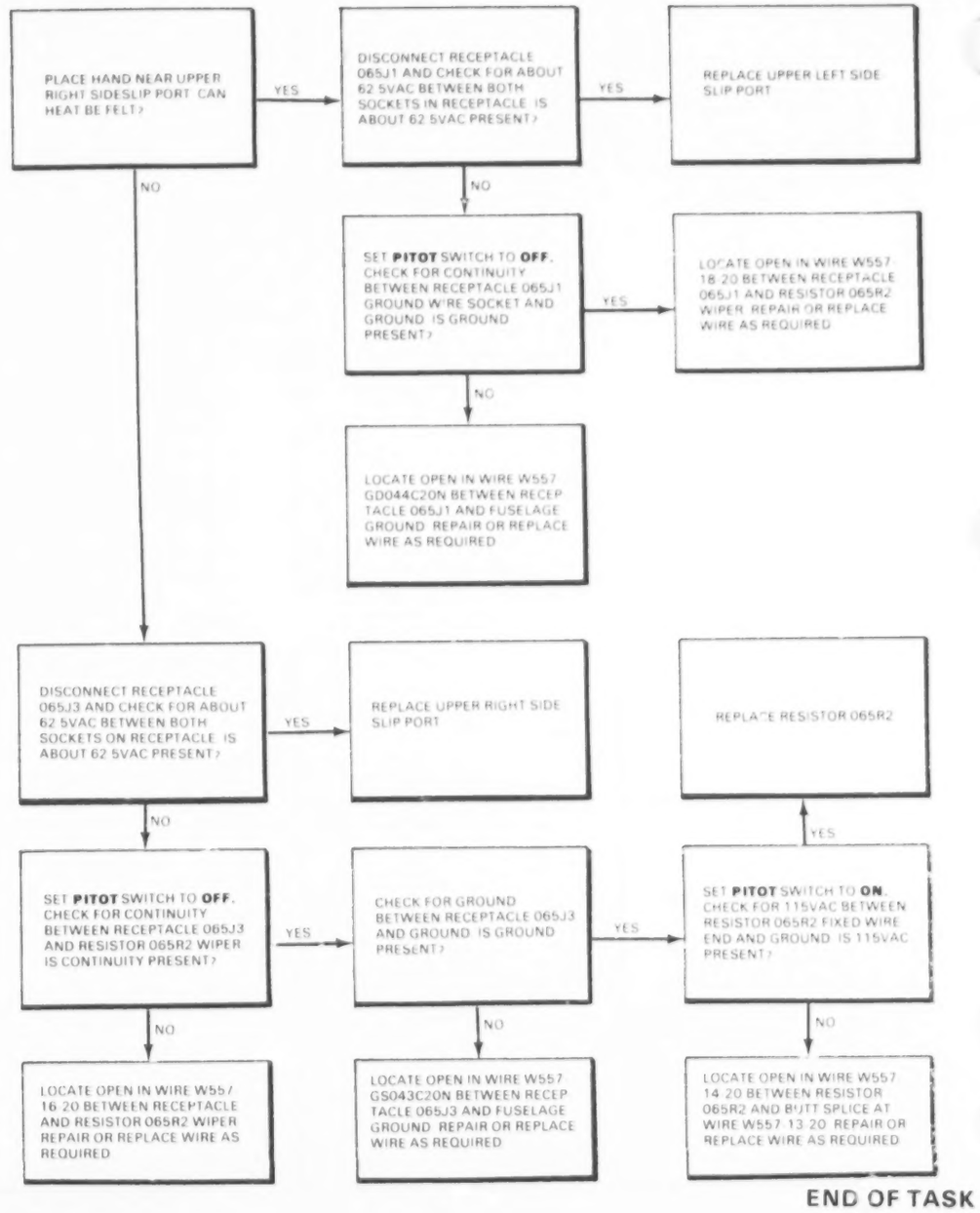

PLACE HAND NEAR UPPER RIGHT SIDESLIP PORT. CAN HEAT BE FELT?
YES
DISCONNECT RECEPTACLE 065J1 AND CHECK FOR ABOUT 62.5VAC BETWEEN BOTH SOCKETS IN RECEPTACLE. IS ABOUT 62.5VAC PRESENT?
YES
REPLACE UPPER LEFT SIDE SLIP PORT
NO
SET PITOT SWITCH TO OFF. CHECK FOR CONTINUITY BETWEEN RECEPTACLE 065J1 GROUND WIRE SOCKET AND GROUND. IS GROUND PRESENT?
YES
LOCATE OPEN IN WIRE W557 18-20 BETWEEN RECEPTACLE 065J1 AND RESISTOR 065R2 WIPER. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W557 GD044C20N BETWEEN RECEPTACLE 065J1 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
DISCONNECT RECEPTACLE 065J3 AND CHECK FOR ABOUT 62.5VAC BETWEEN BOTH SOCKETS ON RECEPTACLE. IS ABOUT 62.5VAC PRESENT?
YES
REPLACE UPPER RIGHT SIDE SLIP PORT
REPLACE RESISTOR 065R2
YES
NO
SET PITOT SWITCH TO OFF. CHECK FOR CONTINUITY BETWEEN RECEPTACLE 065J3 AND RESISTOR 065R2 WIPER. IS CONTINUITY PRESENT?
YES
CHECK FOR GROUND BETWEEN RECEPTACLE 065J3 AND GROUND. IS GROUND PRESENT?
YES
SET PITOT SWITCH TO ON. CHECK FOR 115VAC BETWEEN RESISTOR 065R2 FIXED WIRE END AND GROUND. IS 115VAC PRESENT?
NO
NO
NO
LOCATE OPEN IN WIRE W557 16-20 BETWEEN RECEPTACLE AND RESISTOR 065R2 WIPER. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE OPEN IN WIRE W557 GS043C20N BETWEEN RECEPTACLE 065J3 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE OPEN IN WIRE W557 14-20 BETWEEN RESISTOR 065R2 AND BUTT SPLICE AT WIRE W557 13-20. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-1.10 AIMS ALT CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

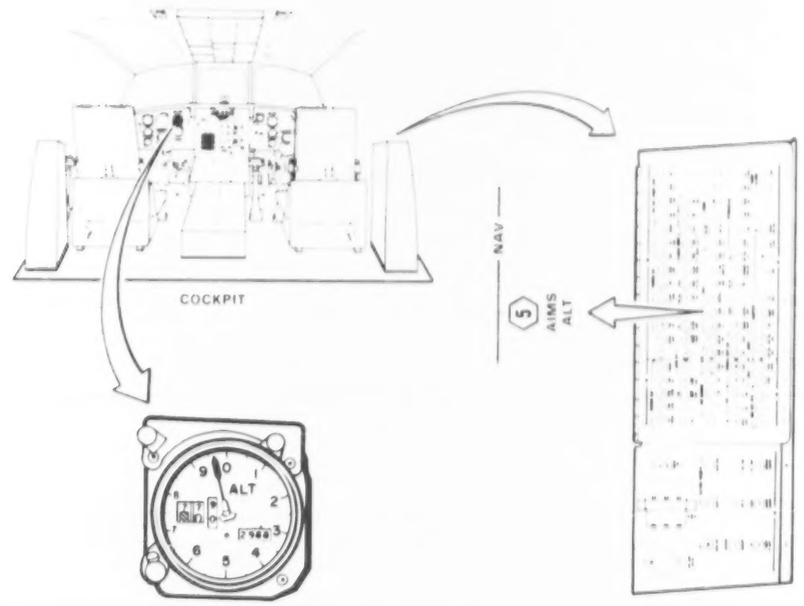
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



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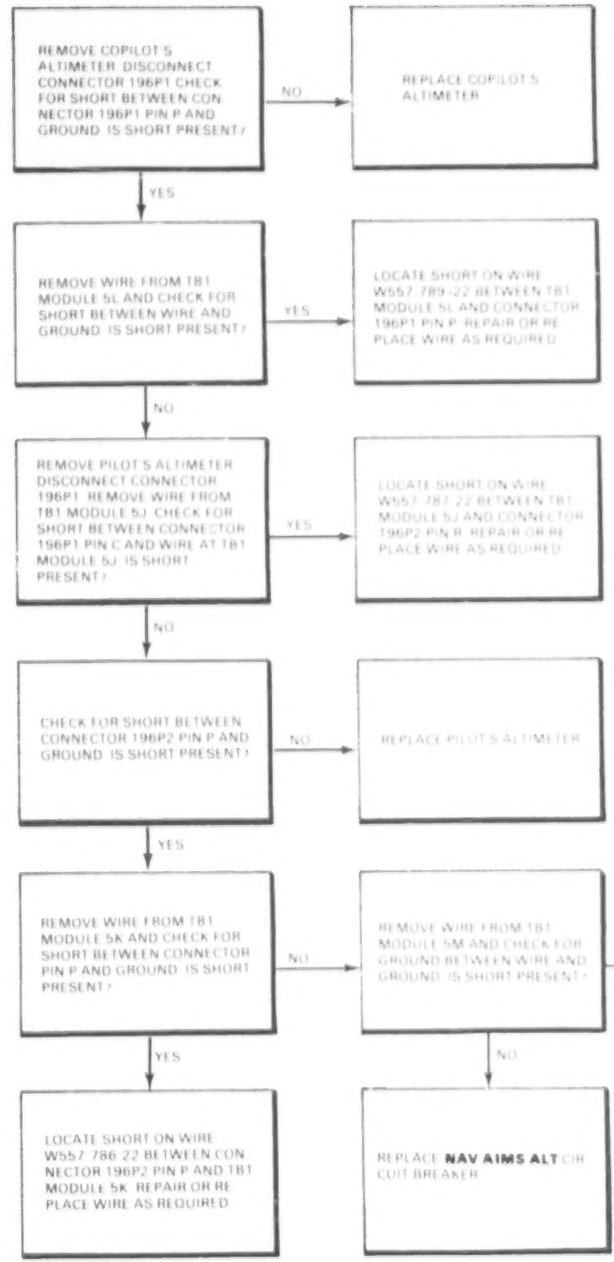

REMOVE COPILOT'S ALTIMETER, DISCONNECT CONNECTOR 196P1, CHECK FOR SHORT BETWEEN CONNECTOR 196P1 PIN P AND GROUND. IS SHORT PRESENT?
NO
REPLACE COPILOT'S ALTIMETER
YES
REMOVE WIRE FROM TB1 MODULE 5L AND CHECK FOR SHORT BETWEEN WIRE AND GROUND. IS SHORT PRESENT?
YES
LOCATE SHORT ON WIRE W557-789-22 BETWEEN TB1 MODULE 5L AND CONNECTOR 196P1 PIN P. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REMOVE PILOT'S ALTIMETER DISCONNECT CONNECTOR 196P1. REMOVE WIRE FROM TB1 MODULE 5J. CHECK FOR SHORT BETWEEN CONNECTOR 196P1 PIN C AND WIRE AT TB1 MODULE 5J. IS SHORT PRESENT?
YES
LOCATE SHORT ON WIRE W557-787-22 BETWEEN TB1 MODULE 5J AND CONNECTOR 196P2 PIN R. REPAIR OR REPLACE WIRE AS REQUIRED
NO
CHECK FOR SHORT BETWEEN CONNECTOR 196P2 PIN P AND GROUND. IS SHORT PRESENT?
NO
REPLACE PILOT'S ALTIMETER
YES
REMOVE WIRE FROM TB1 MODULE 5K AND CHECK FOR SHORT BETWEEN CONNECTOR PIN P AND GROUND. IS SHORT PRESENT?
NO
REMOVE WIRE FROM TB1 MODULE 5M AND CHECK FOR GROUND BETWEEN WIRE AND GROUND. IS SHORT PRESENT?
YES
LOCATE SHORT ON WIRES W557-788-22, A639-508-22 OR W557-782-22 BETWEEN CB 196CB1 AND TB1 MODULE 5M. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE SHORT ON WIRE W557-786-22 BETWEEN CONNECTOR 196P2 PIN P AND TB1 MODULE 5K. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE **NAV AIMS ALT** CIRCUIT BREAKER

END OF TASK

8-1.11 PILOT'S OR COPILOT'S ALTIMETER VIBRATOR DOES NOT OPERATE

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

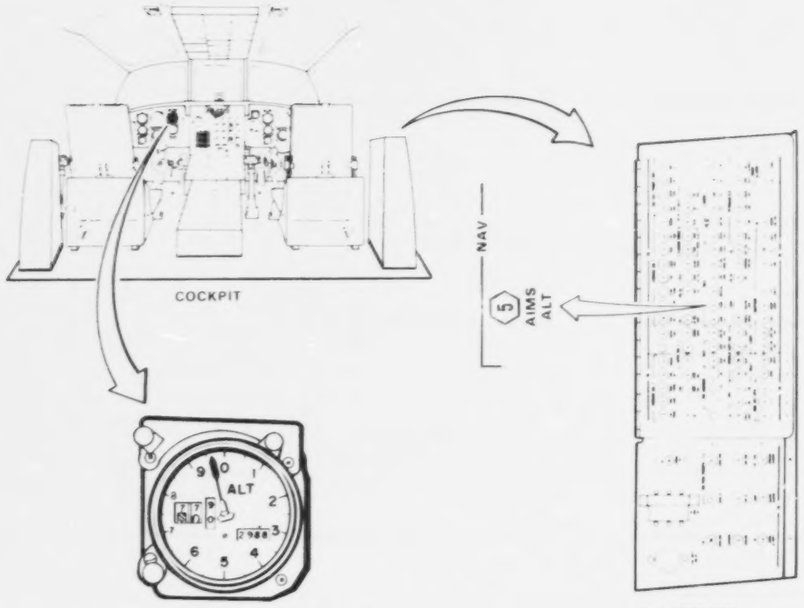
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



COPILOT'S ALTITUDE INDICATOR SHOWN
PILOT'S ALTITUDE INDICATOR SAME

NO 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT

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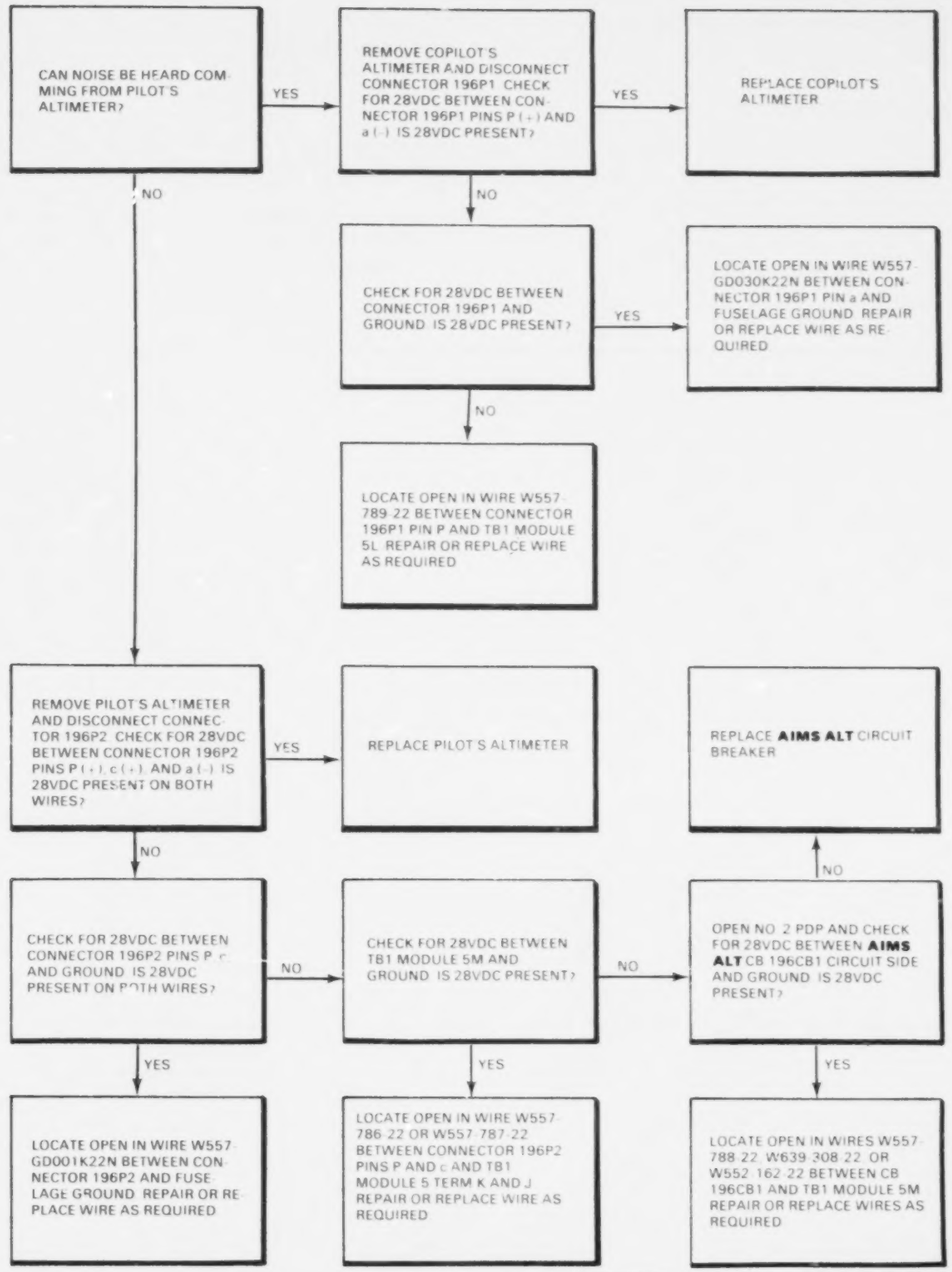
CAN NOISE BE HEARD COMING FROM PILOT'S ALTIMETER?
YES
REMOVE COPILOT'S ALTIMETER AND DISCONNECT CONNECTOR 196P1. CHECK FOR 28VDC BETWEEN CONNECTOR 196P1 PINS P (+) AND a (-) IS 28VDC PRESENT?
YES
REPLACE COPILOT'S ALTIMETER
NO
NO
CHECK FOR 28VDC BETWEEN CONNECTOR 196P1 AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W557-GD030K22N BETWEEN CONNECTOR 196P1 PIN a AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-789-22 BETWEEN CONNECTOR 196P1 PIN P AND TB1 MODULE 5L. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE PILOT'S ALTIMETER AND DISCONNECT CONNECTOR 196P2. CHECK FOR 28VDC BETWEEN CONNECTOR 196P2 PINS P (+), c (+), AND a (-) IS 28VDC PRESENT ON BOTH WIRES?
YES
REPLACE PILOT'S ALTIMETER
REPLACE AIMS ALT CIRCUIT BREAKER
NO
NO
CHECK FOR 28VDC BETWEEN CONNECTOR 196P2 PINS P, c AND GROUND. IS 28VDC PRESENT ON BOTH WIRES?
NO
CHECK FOR 28VDC BETWEEN TB1 MODULE 5M AND GROUND. IS 28VDC PRESENT?
NO
OPEN NO. 2 PDP AND CHECK FOR 28VDC BETWEEN AIMS ALT CB 196CB1 CIRCUIT SIDE AND GROUND. IS 28VDC PRESENT?
YES
YES
YES
LOCATE OPEN IN WIRE W557-GD001K22N BETWEEN CONNECTOR 196P2 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE OPEN IN WIRE W557-786-22 OR W557-787-22 BETWEEN CONNECTOR 196P2 PINS P AND c AND TB1 MODULE 5 TERM K AND J. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE OPEN IN WIRES W557-788-22, W639-308-22 OR W552-162-22 BETWEEN CB 196CB1 AND TB1 MODULE 5M. REPAIR OR REPLACE WIRES AS REQUIRED

END OF TASK

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8-1.12 PITOT STATIC SYSTEM LEAKS

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

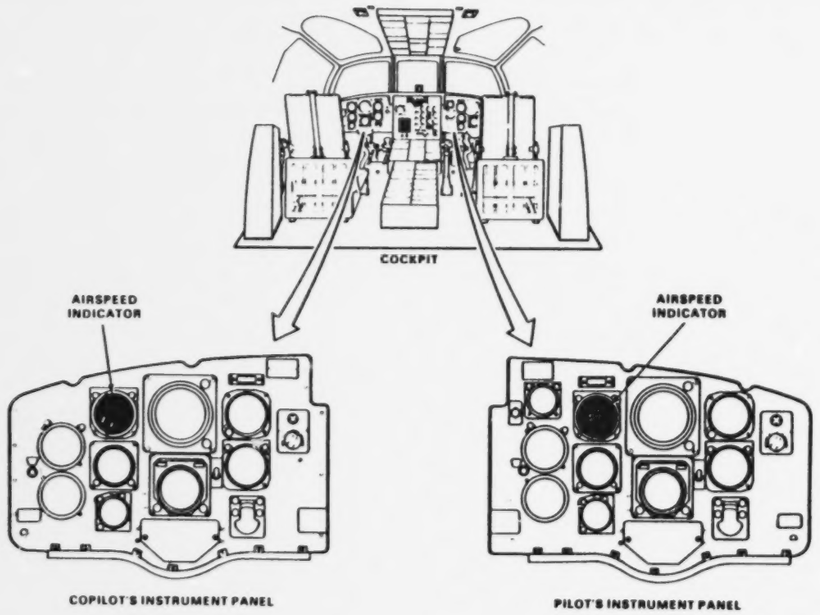
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Pitot Static System Tester,
NSN 4920-00-475-7161
Workstand

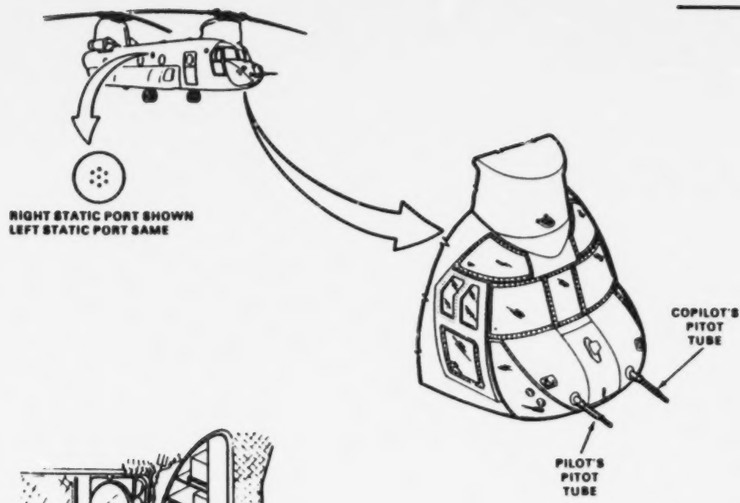
Materials:
Barrier Material (E80)
Masking Tape (E388)

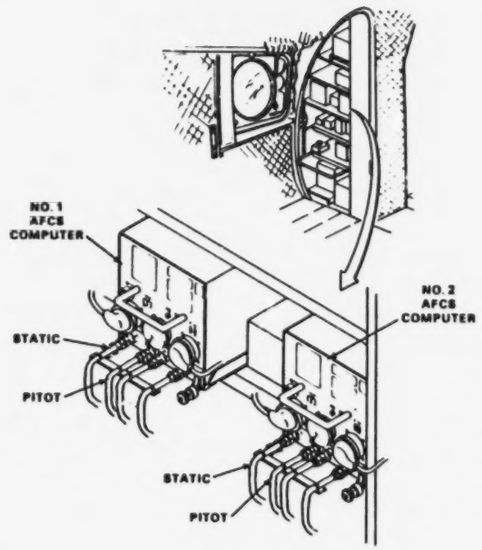
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23
TM 55-4920-231-14

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Nose Access Door Open
Electronic Compartment Acoustic
Blanket Removed







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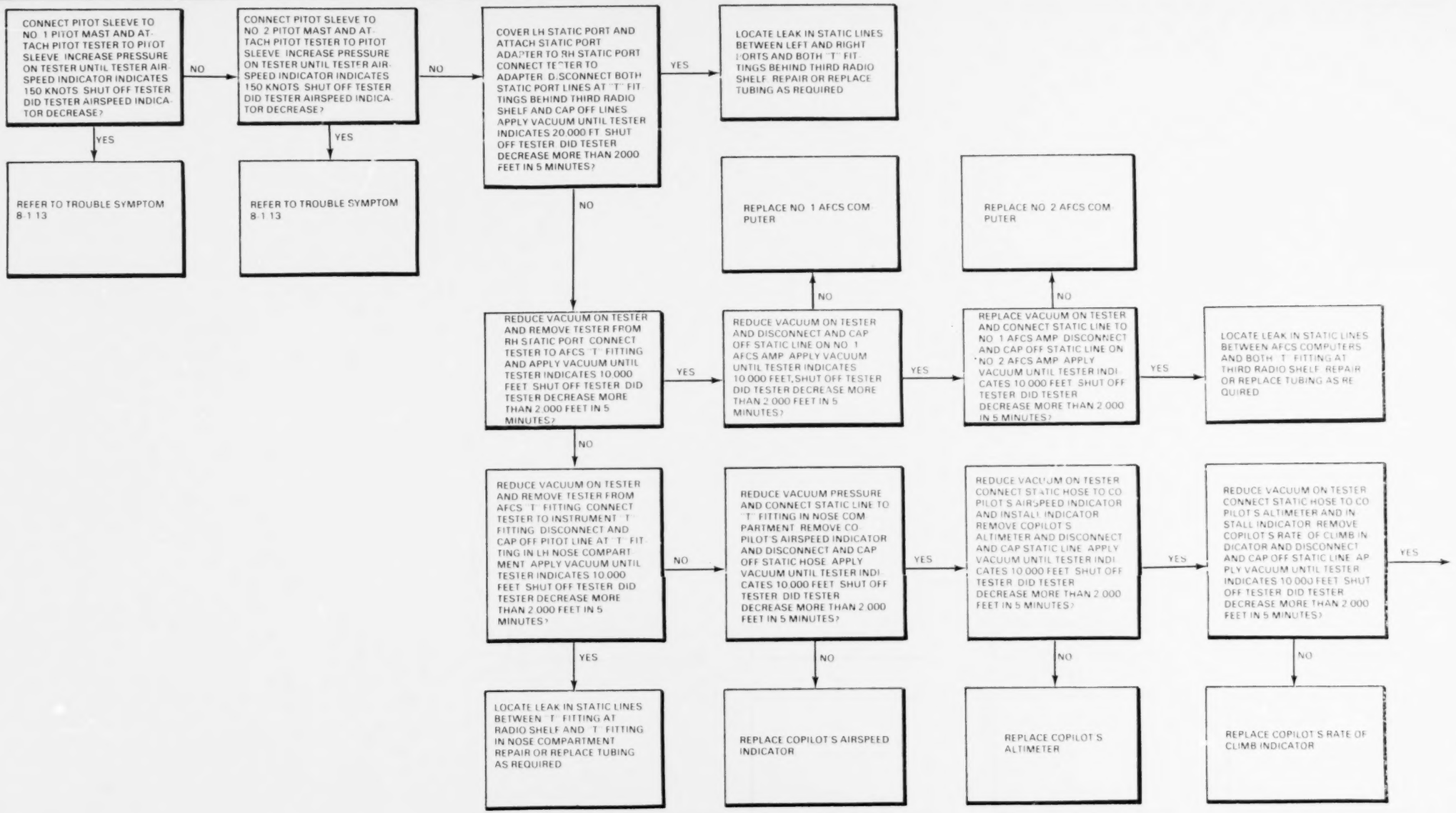
8-1.12 PITOT STATIC SYSTEM LEAKS (Continued)


CONNECT PITOT SLEEVE TO NO 1 PITOT MAST AND ATTACH PITOT TESTER TO PITOT SLEEVE INCREASE PRESSURE ON TESTER UNTIL TESTER AIRSPEED INDICATOR INDICATES 150 KNOTS SHUT OFF TESTER DID TESTER AIRSPEED INDICATOR DECREASE?
NO
CONNECT PITOT SLEEVE TO NO 2 PITOT MAST AND ATTACH PITOT TESTER TO PITOT SLEEVE INCREASE PRESSURE ON TESTER UNTIL TESTER AIRSPEED INDICATOR INDICATES 150 KNOTS SHUT OFF TESTER DID TESTER AIRSPEED INDICATOR DECREASE?
NO
COVER LH STATIC PORT AND ATTACH STATIC PORT ADAPTER TO RH STATIC PORT CONNECT TESTER TO ADAPTER DISCONNECT BOTH STATIC PORT LINES AT "T" FITTINGS BEHIND THIRD RADIO SHELF AND CAP OFF LINES APPLY VACUUM UNTIL TESTER INDICATES 20,000 FT SHUT OFF TESTER DID TESTER DECREASE MORE THAN 2000 FEET IN 5 MINUTES?
YES
LOCATE LEAK IN STATIC LINES BETWEEN LEFT AND RIGHT PORTS AND BOTH "T" FITTINGS BEHIND THIRD RADIO SHELF REPAIR OR REPLACE TUBING AS REQUIRED
YES
REFER TO TROUBLE SYMPTOM 8-1.13
YES
REFER TO TROUBLE SYMPTOM 8-1.13
NO
REDUCE VACUUM ON TESTER AND REMOVE TESTER FROM RH STATIC PORT CONNECT TESTER TO AFCS "T" FITTING AND APPLY VACUUM UNTIL TESTER INDICATES 10,000 FEET SHUT OFF TESTER DID TESTER DECREASE MORE THAN 2,000 FEET IN 5 MINUTES?
YES
REDUCE VACUUM ON TESTER AND DISCONNECT AND CAP OFF STATIC LINE ON NO 1 AFCS AMP APPLY VACUUM UNTIL TESTER INDICATES 10,000 FEET, SHUT OFF TESTER DID TESTER DECREASE MORE THAN 2,000 FEET IN 5 MINUTES?
NO
REPLACE NO 1 AFCS COMPUTER
YES
REPLACE VACUUM ON TESTER AND CONNECT STATIC LINE TO NO 1 AFCS AMP DISCONNECT AND CAP OFF STATIC LINE ON NO 2 AFCS AMP APPLY VACUUM UNTIL TESTER INDICATES 10,000 FEET SHUT OFF TESTER DID TESTER DECREASE MORE THAN 2,000 IN 5 MINUTES?
NO
REPLACE NO 2 AFCS COMPUTER
YES
LOCATE LEAK IN STATIC LINES BETWEEN AFCS COMPUTERS AND BOTH "T" FITTING AT THIRD RADIO SHELF REPAIR OR REPLACE TUBING AS REQUIRED
NO
REDUCE VACUUM ON TESTER AND REMOVE TESTER FROM AFCS "T" FITTING CONNECT TESTER TO INSTRUMENT "T" FITTING DISCONNECT AND CAP OFF PITOT LINE AT "T" FITTING IN LH NOSE COMPARTMENT APPLY VACUUM UNTIL TESTER INDICATES 10,000 FEET SHUT OFF TESTER DID TESTER DECREASE MORE THAN 2,000 FEET IN 5 MINUTES?
YES
LOCATE LEAK IN STATIC LINES BETWEEN "T" FITTING AT RADIO SHELF AND "T" FITTING IN NOSE COMPARTMENT REPAIR OR REPLACE TUBING AS REQUIRED
NO
REDUCE VACUUM PRESSURE AND CONNECT STATIC LINE TO "T" FITTING IN NOSE COMPARTMENT REMOVE COPILOT'S AIRSPEED INDICATOR AND DISCONNECT AND CAP OFF STATIC HOSE APPLY VACUUM UNTIL TESTER INDICATES 10,000 FEET SHUT OFF TESTER DID TESTER DECREASE MORE THAN 2,000 FEET IN 5 MINUTES?
NO
REPLACE COPILOT'S AIRSPEED INDICATOR
YES
REDUCE VACUUM ON TESTER CONNECT STATIC HOSE TO COPILOT'S AIRSPEED INDICATOR AND INSTALL INDICATOR REMOVE COPILOT'S ALTIMETER AND DISCONNECT AND CAP STATIC LINE APPLY VACUUM UNTIL TESTER INDICATES 10,000 FEET SHUT OFF TESTER DID TESTER DECREASE MORE THAN 2,000 FEET IN 5 MINUTES?
NO
REPLACE COPILOT'S ALTIMETER
YES
REDUCE VACUUM ON TESTER CONNECT STATIC HOSE TO COPILOT'S ALTIMETER AND INSTALL INDICATOR REMOVE COPILOT'S RATE OF CLIMB INDICATOR AND DISCONNECT AND CAP OFF STATIC LINE APPLY VACUUM UNTIL TESTER INDICATES 10,000 FEET SHUT OFF TESTER DID TESTER DECREASE MORE THAN 2,000 FEET IN 5 MINUTES?
NO
REPLACE COPILOT'S RATE OF CLIMB INDICATOR
YES

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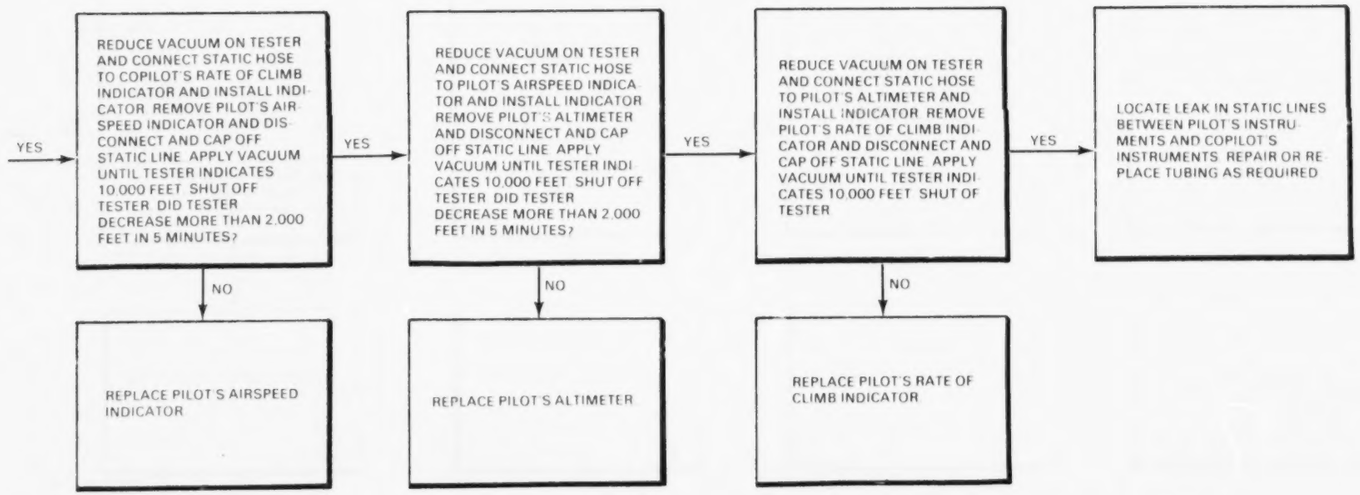
8-1.12 PITOT STATIC SYSTEM LEAKS (Continued)


REDUCE VACUUM ON TESTER AND CONNECT STATIC HOSE TO COPILOT'S RATE OF CLIMB INDICATOR AND INSTALL INDICATOR. REMOVE PILOT'S AIRSPEED INDICATOR AND DISCONNECT AND CAP OFF STATIC LINE. APPLY VACUUM UNTIL TESTER INDICATES 10,000 FEET. SHUT OFF TESTER. DID TESTER DECREASE MORE THAN 2,000 FEET IN 5 MINUTES?
YES
NO
REPLACE PILOT'S AIRSPEED INDICATOR
REDUCE VACUUM ON TESTER AND CONNECT STATIC HOSE TO PILOT'S AIRSPEED INDICATOR AND INSTALL INDICATOR. REMOVE PILOT'S ALTIMETER AND DISCONNECT AND CAP OFF STATIC LINE. APPLY VACUUM UNTIL TESTER INDICATES 10,000 FEET. SHUT OFF TESTER. DID TESTER DECREASE MORE THAN 2,000 FEET IN 5 MINUTES?
YES
NO
REPLACE PILOT'S ALTIMETER
REDUCE VACUUM ON TESTER AND CONNECT STATIC HOSE TO PILOT'S ALTIMETER AND INSTALL INDICATOR. REMOVE PILOT'S RATE OF CLIMB INDICATOR AND DISCONNECT AND CAP OFF STATIC LINE. APPLY VACUUM UNTIL TESTER INDICATES 10,000 FEET. SHUT OF TESTER
YES
NO
REPLACE PILOT'S RATE OF CLIMB INDICATOR
LOCATE LEAK IN STATIC LINES BETWEEN PILOT'S INSTRUMENTS AND COPILOT'S INSTRUMENTS. REPAIR OR REPLACE TUBING AS REQUIRED

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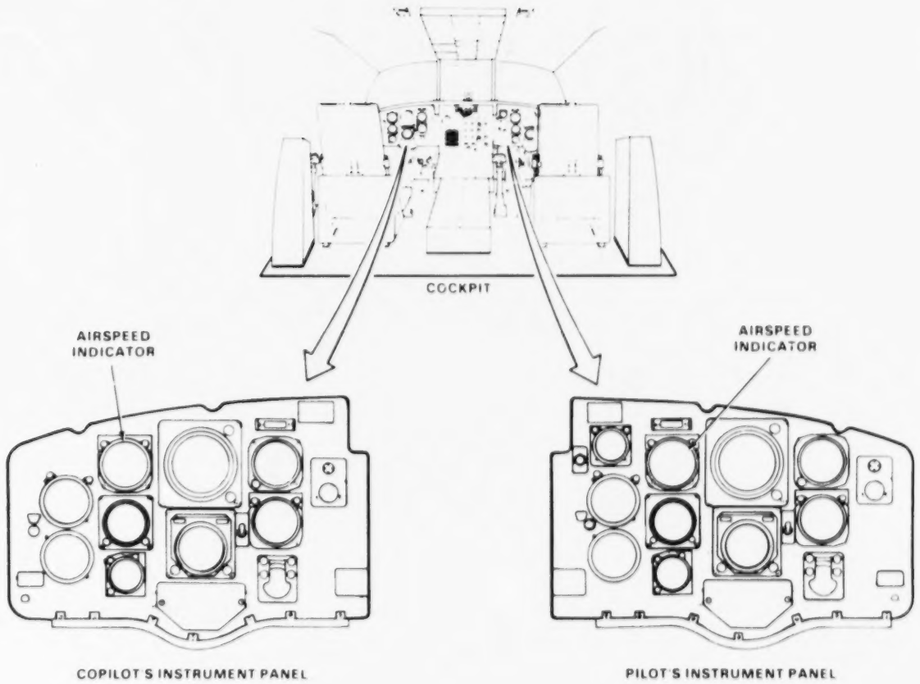
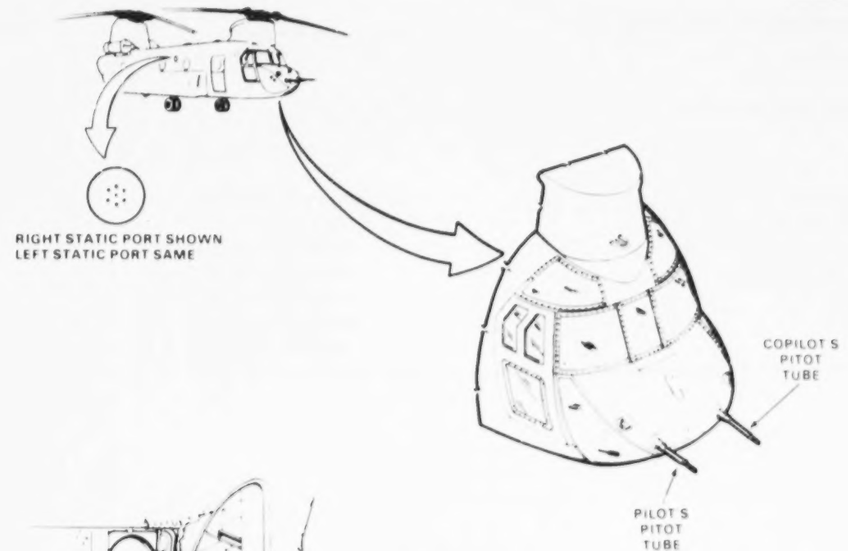
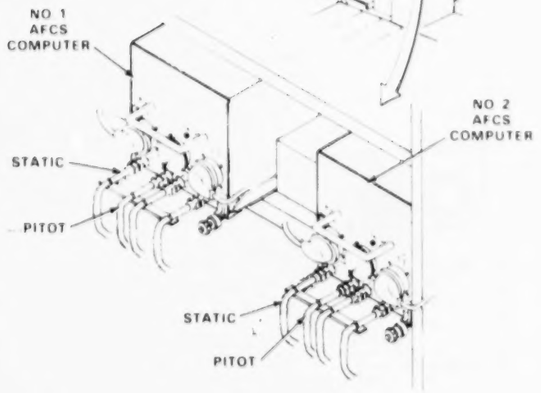
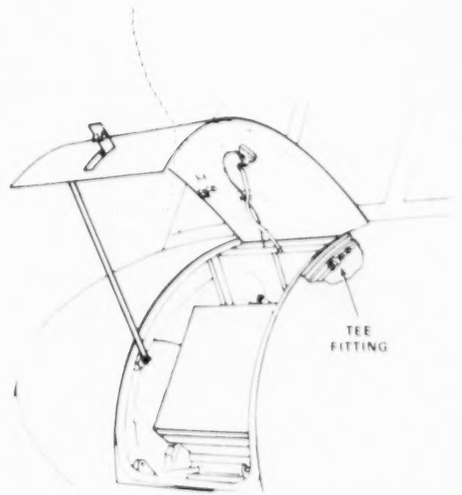
8-1.12 PITOT STATIC SYSTEM LEAKS (Continued)









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END OF TASK

8-1.13 NO. 1 OR NO. 2 PITOT SYSTEM LEAKS

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

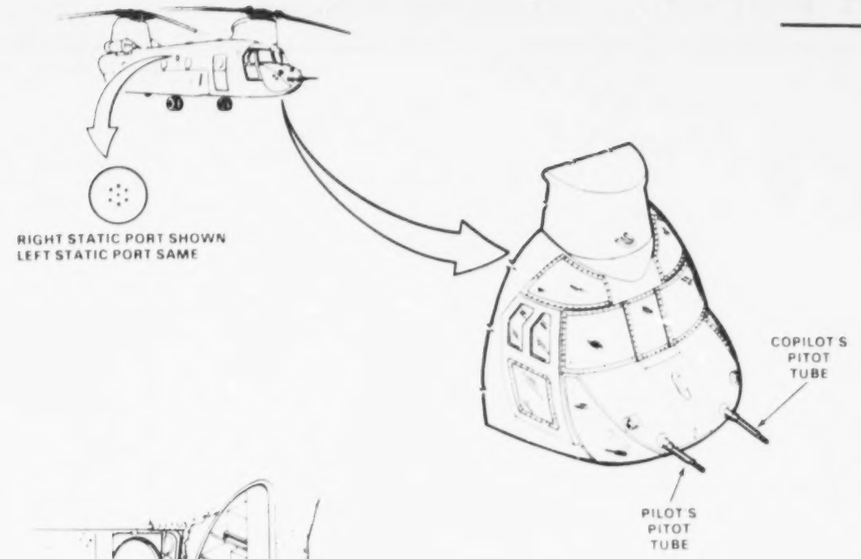
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Pitot Static System Tester,
NSN 4920-00-475-7161

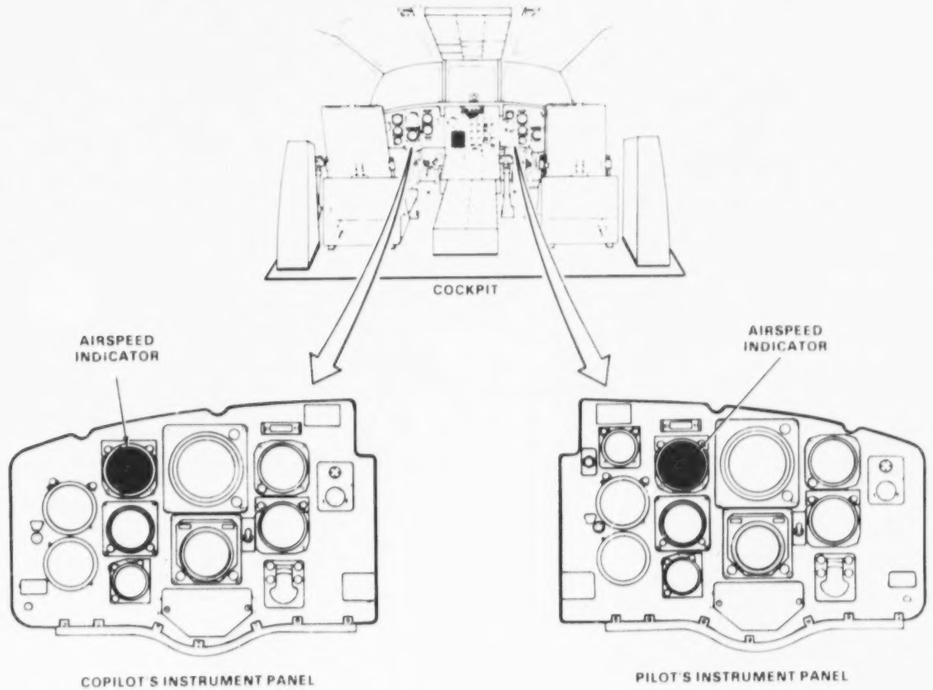
Materials:
None

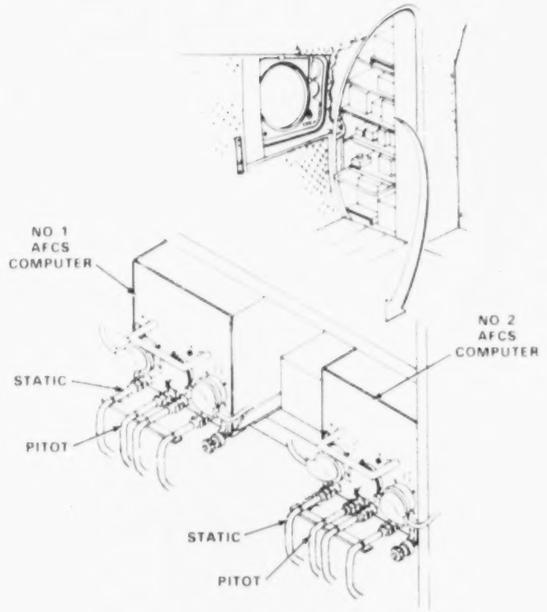
Personnel Required:
68F10 Aircraft Electrician

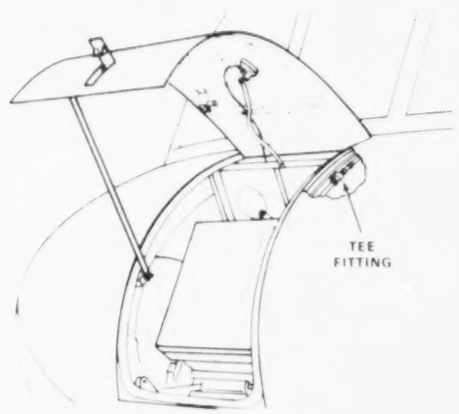
References:
TM 55-1520-240-23
TM 55-4920-231-14

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Electronic Compartment Acoustic
Blanket Removed









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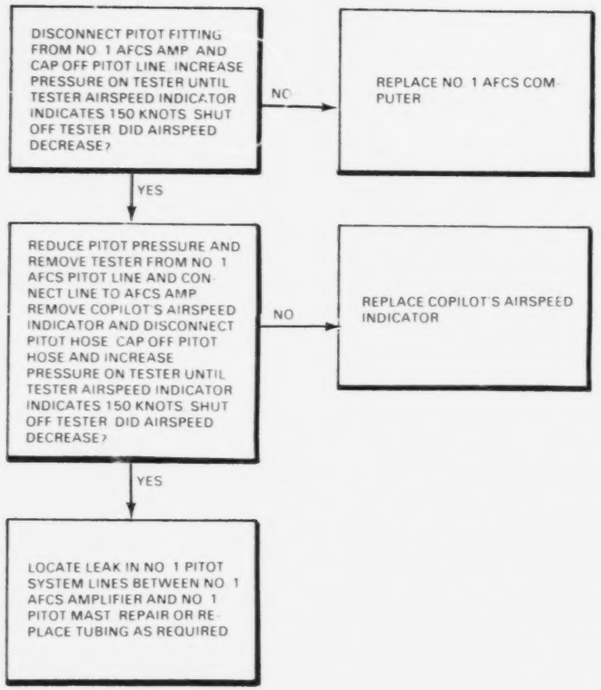
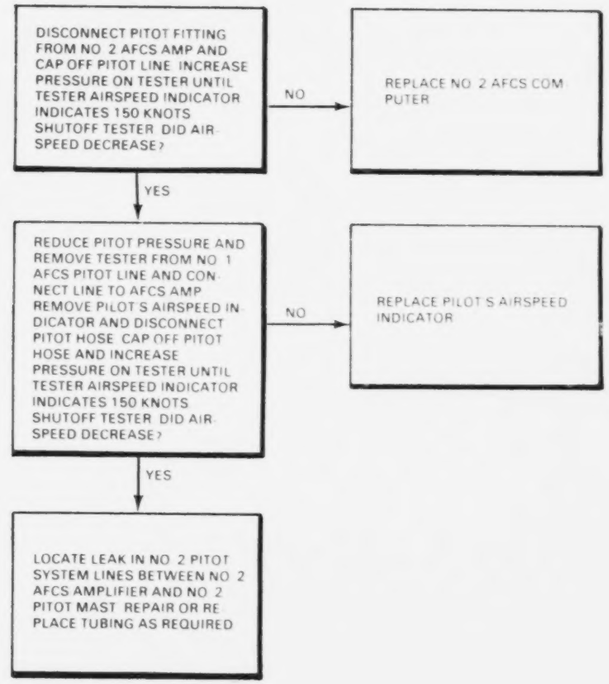
NO. 1 PITOT SYSTEM LEAKS


DISCONNECT PITOT FITTING FROM NO. 1 AFCS AMP AND CAP OFF PITOT LINE. INCREASE PRESSURE ON TESTER UNTIL TESTER AIRSPEED INDICATOR INDICATES 150 KNOTS. SHUT OFF TESTER. DID AIRSPEED DECREASE?
NO
REPLACE NO. 1 AFCS COMPUTER
YES
REDUCE PITOT PRESSURE AND REMOVE TESTER FROM NO. 1 AFCS PITOT LINE AND CONNECT LINE TO AFCS AMP. REMOVE COPILOT'S AIRSPEED INDICATOR AND DISCONNECT PITOT HOSE. CAP OFF PITOT HOSE AND INCREASE PRESSURE ON TESTER UNTIL TESTER AIRSPEED INDICATOR INDICATES 150 KNOTS. SHUT OFF TESTER. DID AIRSPEED DECREASE?
NO
REPLACE COPILOT'S AIRSPEED INDICATOR
YES
LOCATE LEAK IN NO. 1 PITOT SYSTEM LINES BETWEEN NO. 1 AFCS AMPLIFIER AND NO. 1 PITOT MAST. REPAIR OR REPLACE TUBING AS REQUIRED

NO. 2 PITOT SYSTEM LEAKS


DISCONNECT PITOT FITTING FROM NO. 2 AFCS AMP AND CAP OFF PITOT LINE. INCREASE PRESSURE ON TESTER UNTIL TESTER AIRSPEED INDICATOR INDICATES 150 KNOTS. SHUTOFF TESTER. DID AIRSPEED DECREASE?
NO
REPLACE NO. 2 AFCS COMPUTER
YES
REDUCE PITOT PRESSURE AND REMOVE TESTER FROM NO. 1 AFCS PITOT LINE AND CONNECT LINE TO AFCS AMP. REMOVE PILOT'S AIRSPEED INDICATOR AND DISCONNECT PITOT HOSE. CAP OFF PITOT HOSE AND INCREASE PRESSURE ON TESTER UNTIL TESTER AIRSPEED INDICATOR INDICATES 150 KNOTS. SHUTOFF TESTER. DID AIRSPEED DECREASE?
NO
REPLACE PILOT'S AIRSPEED INDICATOR
YES
LOCATE LEAK IN NO. 2 PITOT SYSTEM LINES BETWEEN NO. 2 AFCS AMPLIFIER AND NO. 2 PITOT MAST. REPAIR OR REPLACE TUBING AS REQUIRED

END OF TASK

8-1.14 NO. 1 OR NO. 2 SIDESLIP SYSTEM LEAKS

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configuration:
All

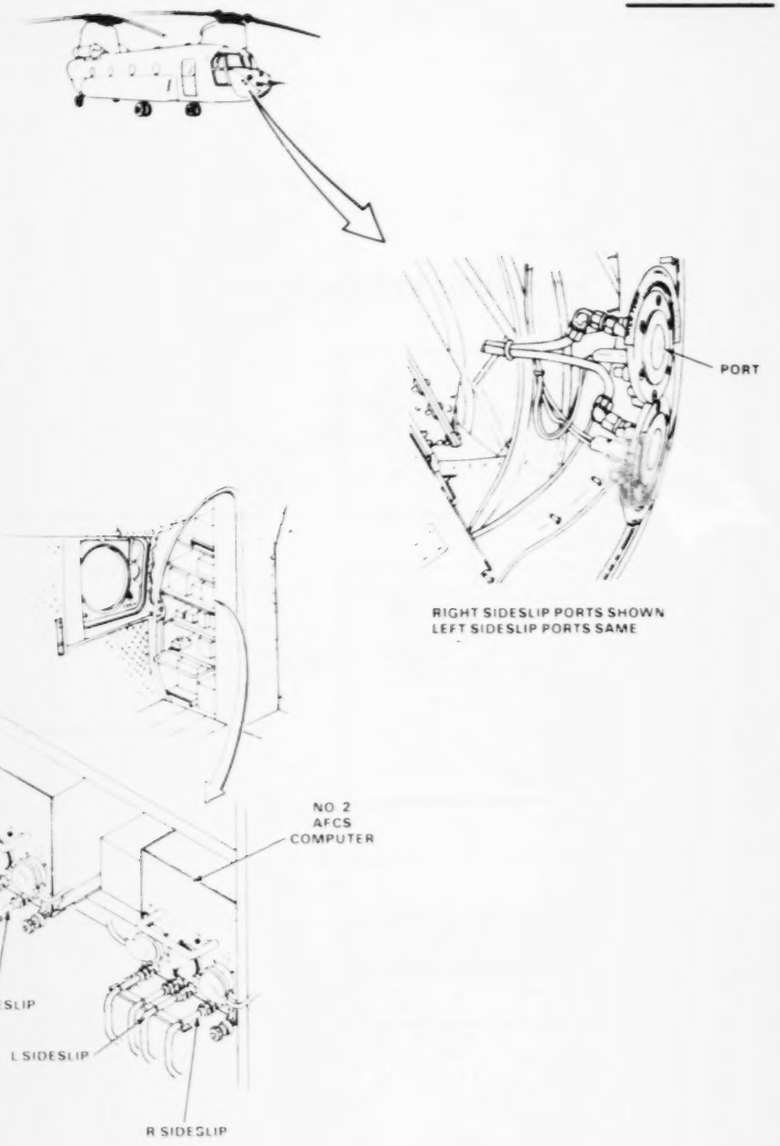
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Pitot Static System Tester,
NSN 4920-00-475-7161
Workstand

Materials:
Barrier Material (E80)
Masking Tape (E388)

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23
TM 55-4920-231-14

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Nose Access Door Open
Electronic Compartment Acoustic Blanket Removed



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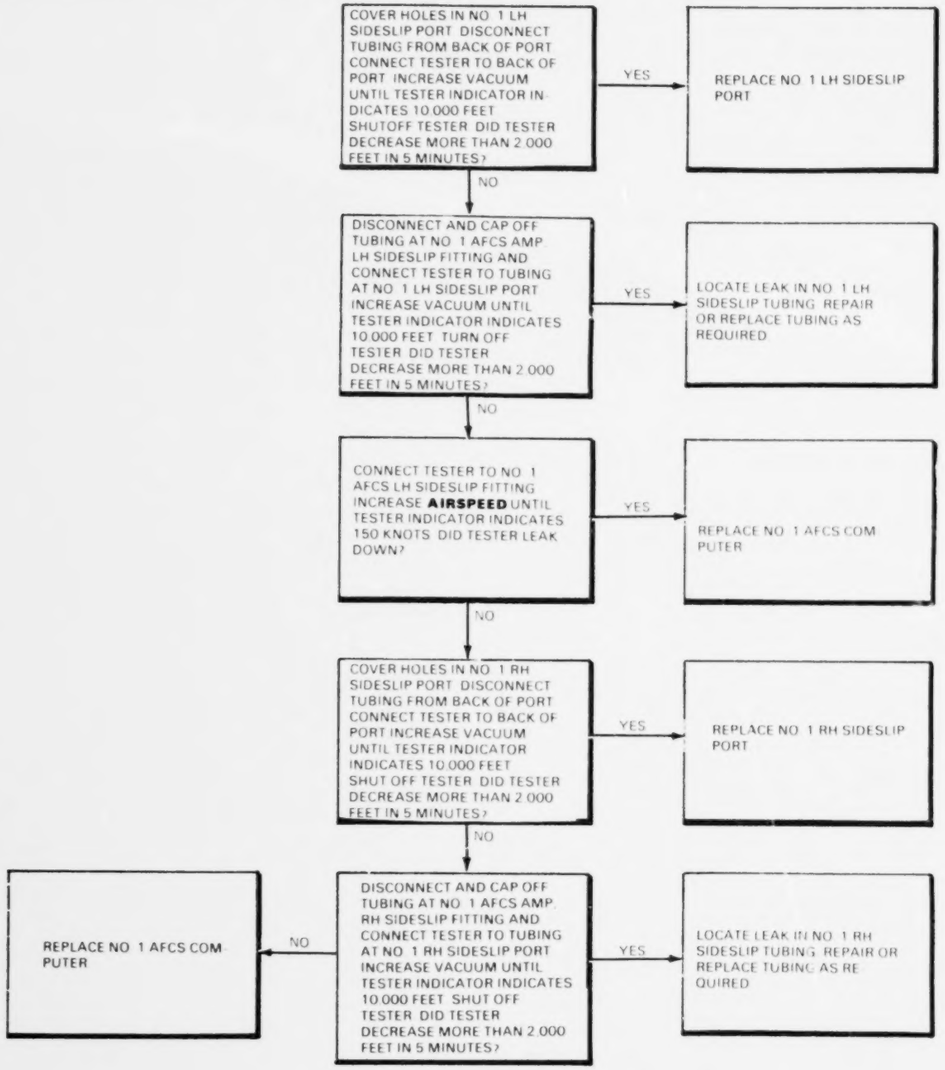
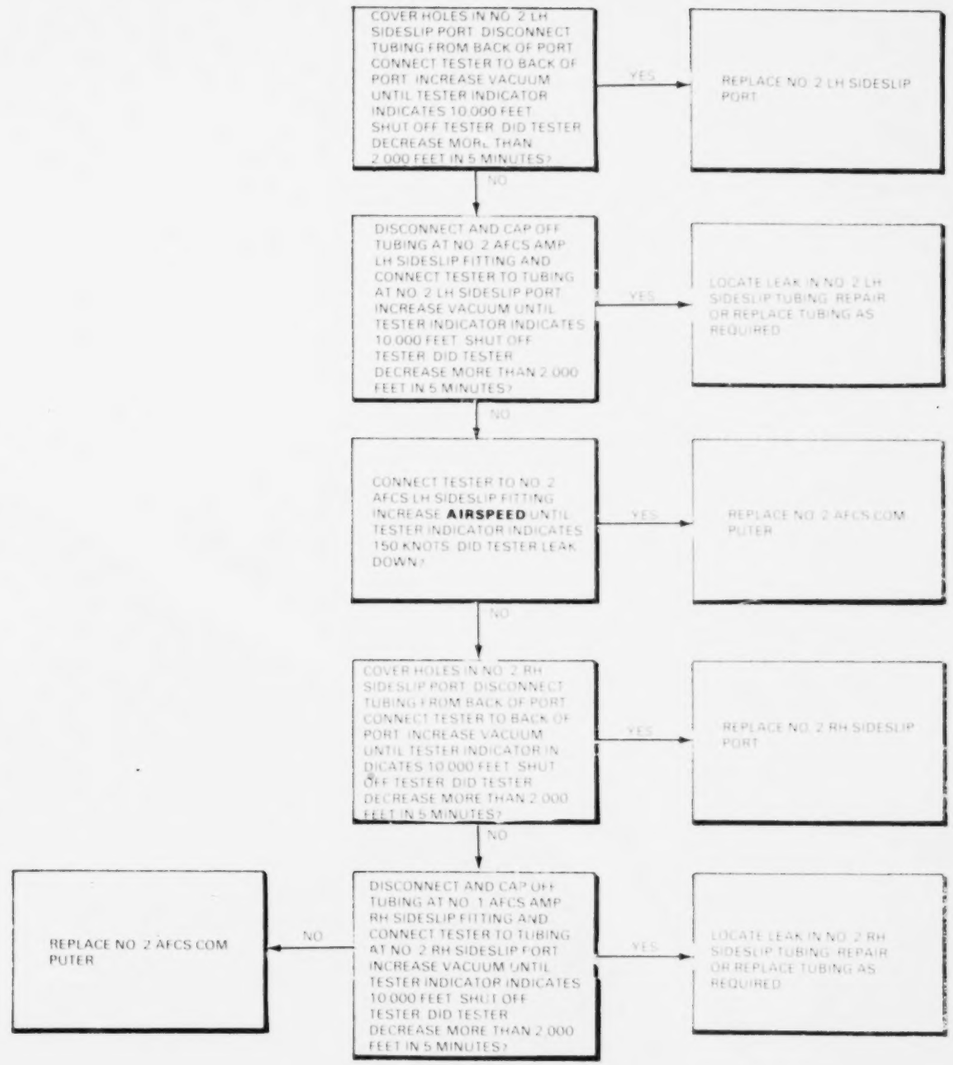
8-1.14 NO. 1 OR NO. 2 SIDESLIP SYSTEM LEAKS (Continued)

NO. 1 SIDESLIP SYSTEM LEAKS


COVER HOLES IN NO. 1 LH SIDESLIP PORT. DISCONNECT TUBING FROM BACK OF PORT. CONNECT TESTER TO BACK OF PORT. INCREASE VACUUM UNTIL TESTER INDICATOR INDICATES 10,000 FEET. SHUTOFF TESTER. DID TESTER DECREASE MORE THAN 2,000 FEET IN 5 MINUTES?
YES
REPLACE NO. 1 LH SIDESLIP PORT
NO
DISCONNECT AND CAP OFF TUBING AT NO. 1 AFCS AMP. LH SIDESLIP FITTING AND CONNECT TESTER TO TUBING AT NO. 1 LH SIDESLIP PORT. INCREASE VACUUM UNTIL TESTER INDICATOR INDICATES 10,000 FEET. TURN OFF TESTER. DID TESTER DECREASE MORE THAN 2,000 FEET IN 5 MINUTES?
YES
LOCATE LEAK IN NO. 1 LH SIDESLIP TUBING. REPAIR OR REPLACE TUBING AS REQUIRED.
NO
CONNECT TESTER TO NO. 1 AFCS LH SIDESLIP FITTING. INCREASE AIRSPEED UNTIL TESTER INDICATOR INDICATES 150 KNOTS. DID TESTER LEAK DOWN?
YES
REPLACE NO. 1 AFCS COMPUTER
NO
COVER HOLES IN NO. 1 RH SIDESLIP PORT. DISCONNECT TUBING FROM BACK OF PORT. CONNECT TESTER TO BACK OF PORT. INCREASE VACUUM UNTIL TESTER INDICATOR INDICATES 10,000 FEET. SHUT OFF TESTER. DID TESTER DECREASE MORE THAN 2,000 FEET IN 5 MINUTES?
YES
REPLACE NO. 1 RH SIDESLIP PORT
NO
DISCONNECT AND CAP OFF TUBING AT NO. 1 AFCS AMP. RH SIDESLIP FITTING AND CONNECT TESTER TO TUBING AT NO. 1 RH SIDESLIP PORT. INCREASE VACUUM UNTIL TESTER INDICATOR INDICATES 10,000 FEET. SHUT OFF TESTER. DID TESTER DECREASE MORE THAN 2,000 FEET IN 5 MINUTES?
YES
LOCATE LEAK IN NO. 1 RH SIDESLIP TUBING. REPAIR OR REPLACE TUBING AS REQUIRED.
NO
REPLACE NO. 1 AFCS COMPUTER

NO. 2 SIDESLIP SYSTEM LEAKS

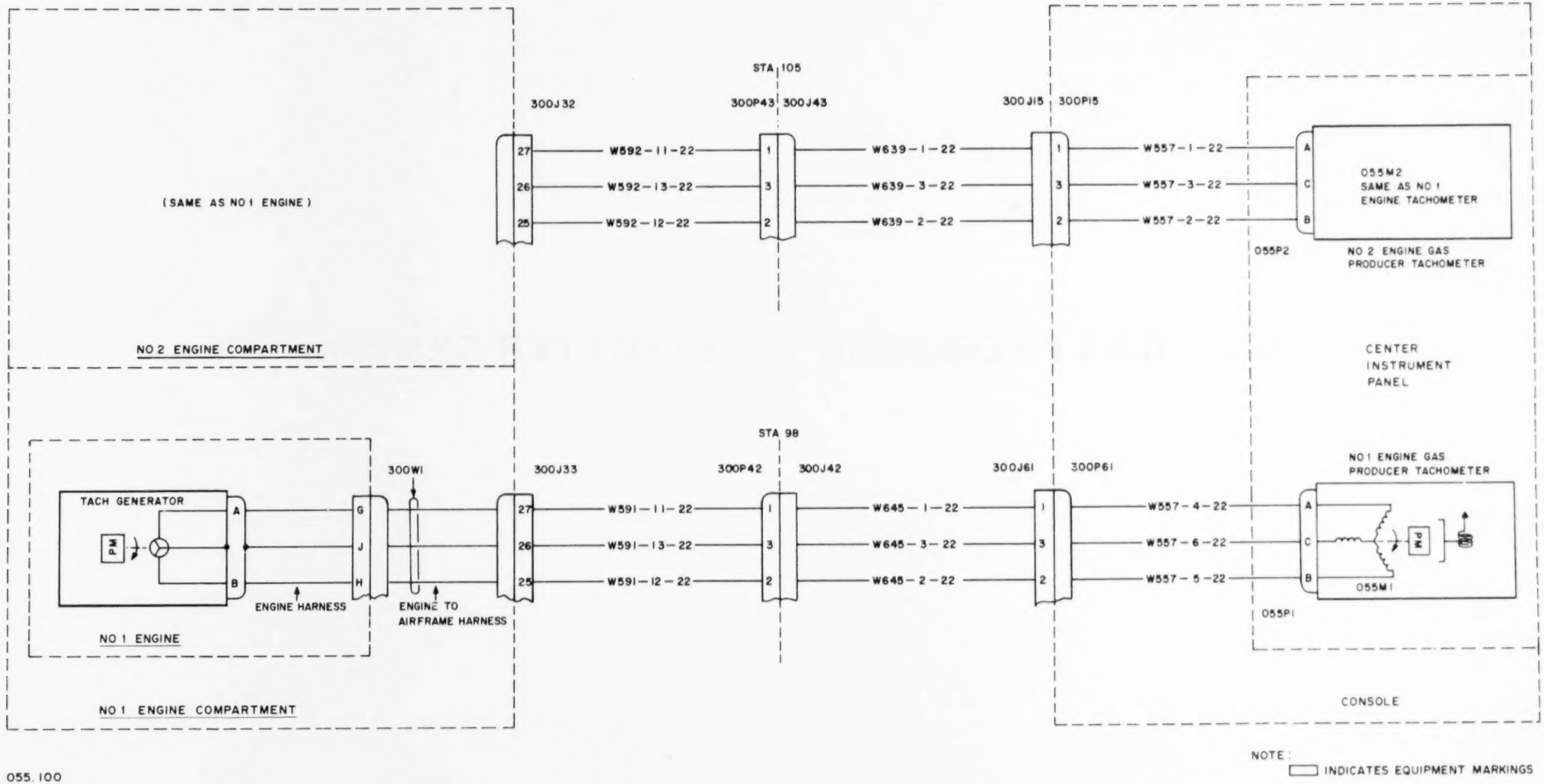

COVER HOLES IN NO. 2 LH SIDESLIP PORT. DISCONNECT TUBING FROM BACK OF PORT. CONNECT TESTER TO BACK OF PORT. INCREASE VACUUM UNTIL TESTER INDICATOR INDICATES 10,000 FEET. SHUT OFF TESTER. DID TESTER DECREASE MORE THAN 2,000 FEET IN 5 MINUTES?
YES
REPLACE NO. 2 LH SIDESLIP PORT
NO
DISCONNECT AND CAP OFF TUBING AT NO. 2 AFCS AMP. LH SIDESLIP FITTING AND CONNECT TESTER TO TUBING AT NO. 2 LH SIDESLIP PORT. INCREASE VACUUM UNTIL TESTER INDICATOR INDICATES 10,000 FEET. SHUT OFF TESTER. DID TESTER DECREASE MORE THAN 2,000 FEET IN 5 MINUTES?
YES
LOCATE LEAK IN NO. 2 LH SIDESLIP TUBING. REPAIR OR REPLACE TUBING AS REQUIRED.
NO
CONNECT TESTER TO NO. 2 AFCS LH SIDESLIP FITTING. INCREASE AIRSPEED UNTIL TESTER INDICATOR INDICATES 150 KNOTS. DID TESTER LEAK DOWN?
YES
REPLACE NO. 2 AFCS COMPUTER
NO
COVER HOLES IN NO. 2 RH SIDESLIP PORT. DISCONNECT TUBING FROM BACK OF PORT. CONNECT TESTER TO BACK OF PORT. INCREASE VACUUM UNTIL TESTER INDICATOR INDICATES 10,000 FEET. SHUT OFF TESTER. DID TESTER DECREASE MORE THAN 2,000 FEET IN 5 MINUTES?
YES
REPLACE NO. 2 RH SIDESLIP PORT
NO
DISCONNECT AND CAP OFF TUBING AT NO. 1 AFCS AMP. RH SIDESLIP FITTING AND CONNECT TESTER TO TUBING AT NO. 2 RH SIDESLIP PORT. INCREASE VACUUM UNTIL TESTER INDICATOR INDICATES 10,000 FEET. SHUT OFF TESTER. DID TESTER DECREASE MORE THAN 2,000 FEET IN 5 MINUTES?
YES
LOCATE LEAK IN NO. 2 RH SIDESLIP TUBING. REPAIR OR REPLACE TUBING AS REQUIRED.
NO
REPLACE NO. 2 AFCS COMPUTER

END OF TASK

8-2 GAS PRODUCER TACHOMETER SYSTEM

8-2 GAS PRODUCER TACHOMETER SYSTEM

8-2.1 GAS PRODUCER TACHOMETER SYSTEM WIRING DIAGRAM



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8-2.2 GAS PRODUCER TACHOMETER SYSTEM VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer

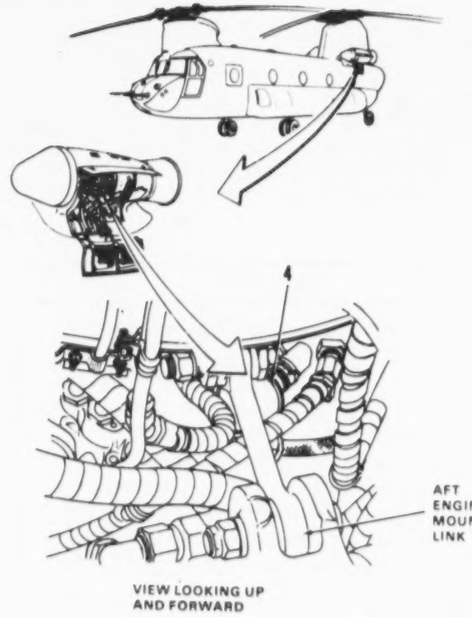
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
No. 1 and No. 2 Engine Upper and Lower Access Covers Open
No. 1 and No. 2 Engine Work Platforms Open

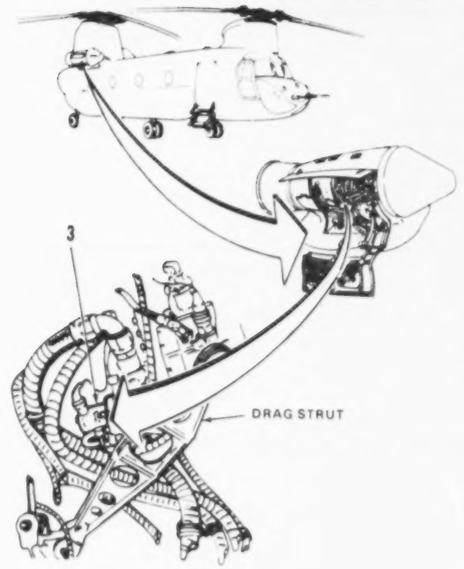
TASK	RESULT
1. **Check NO. 1 ENGINE gas producer tachometer (1).**	If tachometer (1) is loose or damaged, tighten it or replace it.
2. **Check NO. 2 ENGINE gas producer tachometer (2).**	If tachometer (2) is loose or damaged, tighten it or replace it.
3. **Check No. 2 engine gas producer generator (3).**	If tachometer generator (3) is loose or damaged, tighten or replace it as required. If electrical connector or harness to tachometer generator is damaged, replace it.
4. **Check No. 1 engine gas producer generator (4).**	If tachometer generator (4) is loose or damaged, tighten or replace it as required. If electrical connector or harness to tachometer generator is damaged, replace it.

FOLLOW-ON MAINTENANCE:

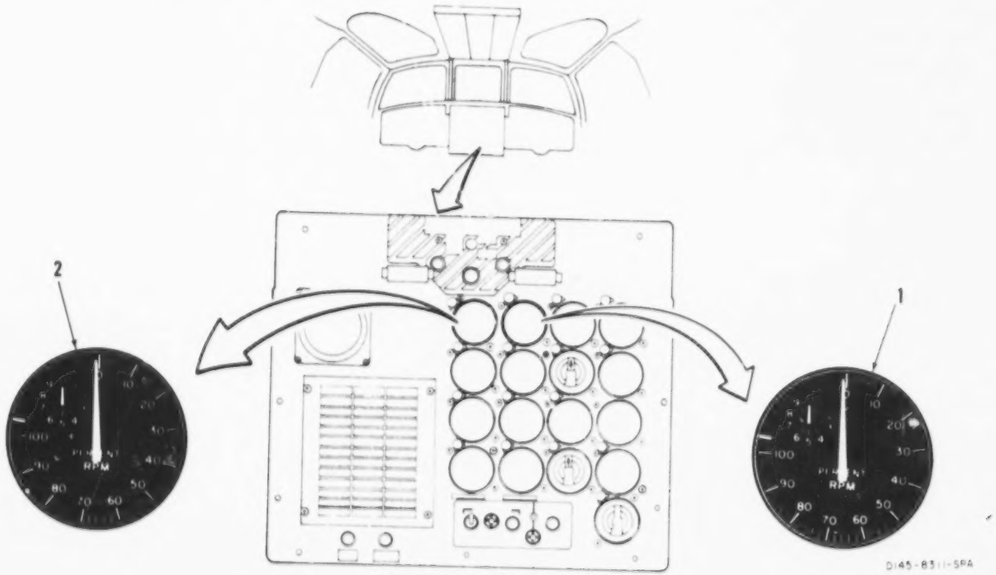
TM 55-1520-240-23:
No. 1 and No. 2 Engine Upper and Lower Access Covers Closed.
No. 1 and No. 2 Engine Work Platforms Closed.



VIEW LOOKING UP AND FORWARD



VIEW LOOKING INBOARD



CENTER INSTRUMENT PANEL

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END OF TASK

8-2.3 GAS PRODUCER TACHOMETER SYSTEM OPERATIONAL CHECK 8-2.3

INITIAL SETUP

Applicable Configurations:
All

Tools:
None

Materials:
None

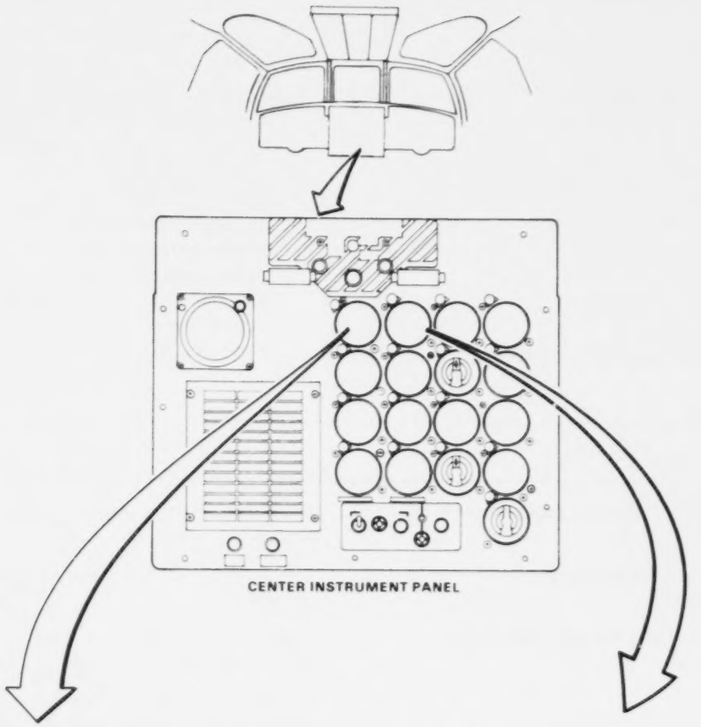
Personnel Required:
Army Rotary Wing Aviator
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power On
Visual Check of Gas Producer Tachometer System Performed (Task 8-2.2)

TASK	RESULT
1. Have pilot motor **NO. 1 ENGINE**.	No. 1 gas producer tachometer shall indicate more than 10 percent. If it does not, but is accompanied by the sounds of a normal engine start, go to task 8-2.4. If the start attempt is not accompanied by the sound of a normal engine start, go to task 4-4.11.
2. Have pilot motor **NO. 2 ENGINE**.	No. 2 gas producer tachometer shall indicate more than 10 percent. If it does not, but is accompanied by the sounds of a normal engine start, go to task 8-2.5. If the start attempt is not accompanied by the sound of a normal engine start, go to task 4-4.15.

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Engines Shutdown
Hydraulic Power Off
Electrical Power Off
Battery Disconnected



NO. 1 ENGINE
GAS PRODUCER
TACHOMETER

NO. 2 ENGINE
GAS PRODUCER
TACHOMETER

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DI45-8312-SPA

END OF TASK

8-2.4 NO. 1 GAS PRODUCER TACHOMETER READS 0 PERCENT RPM WHEN NO. 1 ENGINE IS MOTORED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

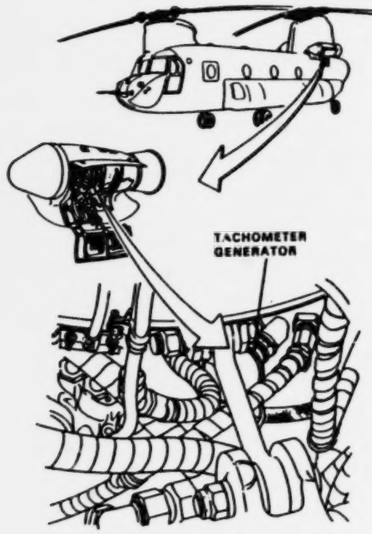
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

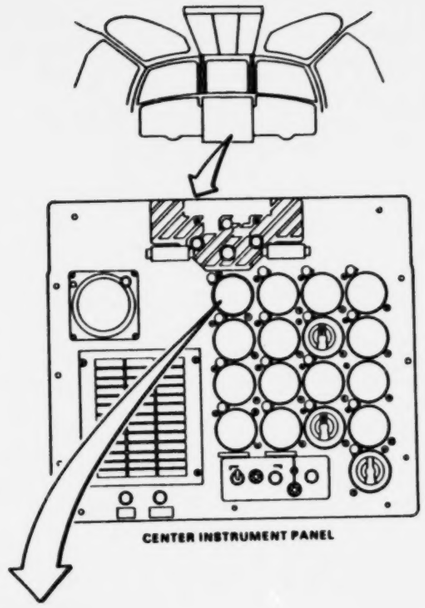
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power On





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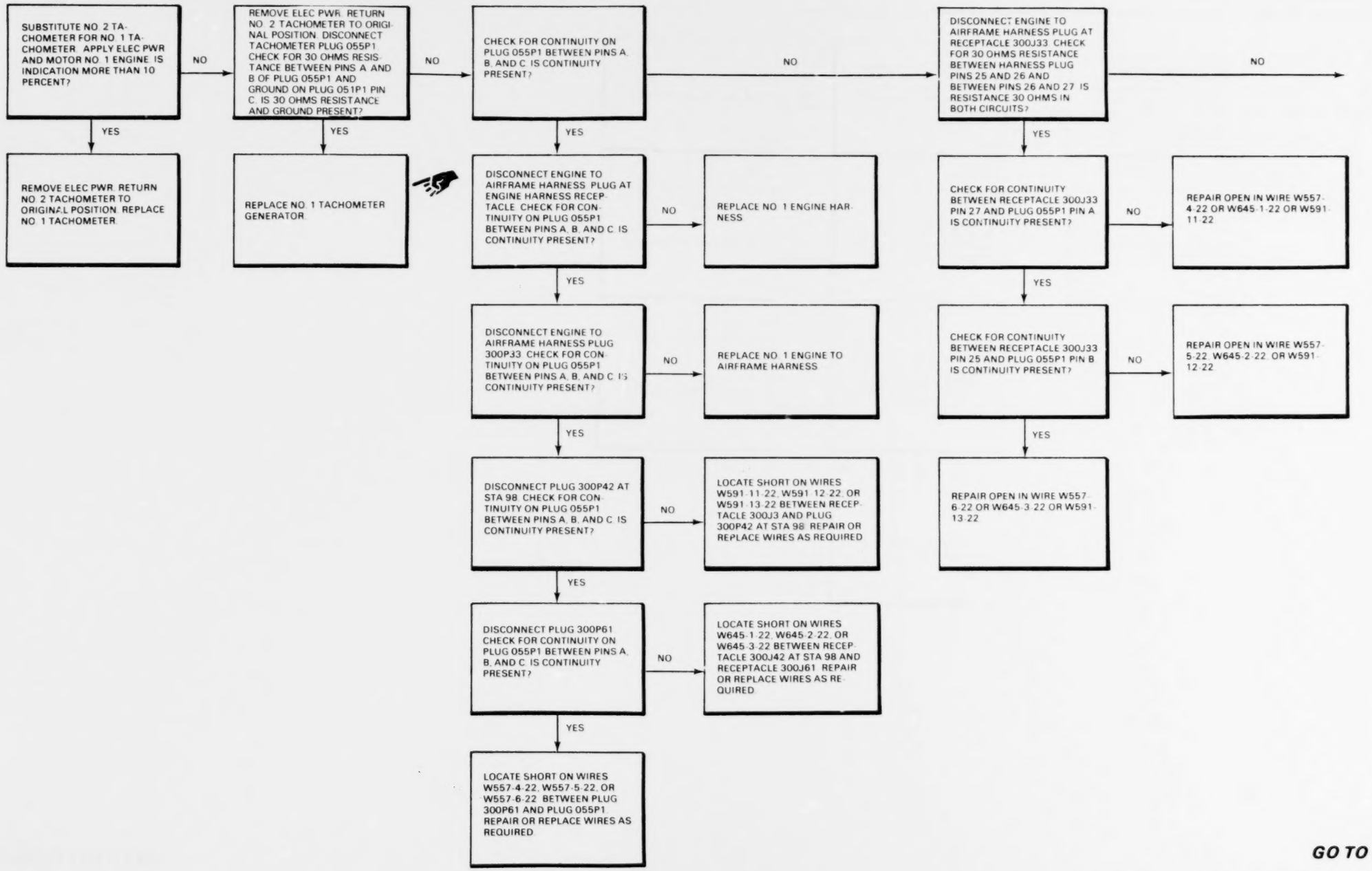
8-2.4 NO. 1 GAS PRODUCER TACHOMETER READS 0 PERCENT RPM WHEN NO. 1 ENGINE IS MOTORED (Continued)


SUBSTITUTE NO. 2 TACHOMETER FOR NO. 1 TACHOMETER. APPLY ELEC PWR AND MOTOR NO. 1 ENGINE. IS INDICATION MORE THAN 10 PERCENT?
NO
YES
REMOVE ELEC PWR. RETURN NO. 2 TACHOMETER TO ORIGINAL POSITION. REPLACE NO. 1 TACHOMETER.
REMOVE ELEC PWR. RETURN NO. 2 TACHOMETER TO ORIGINAL POSITION. DISCONNECT TACHOMETER PLUG 055P1. CHECK FOR 30 OHMS RESISTANCE BETWEEN PINS A AND B OF PLUG 055P1 AND GROUND ON PLUG 051P1 PIN C. IS 30 OHMS RESISTANCE AND GROUND PRESENT?
NO
YES
REPLACE NO. 1 TACHOMETER GENERATOR.
CHECK FOR CONTINUITY ON PLUG 055P1 BETWEEN PINS A, B, AND C. IS CONTINUITY PRESENT?
NO
YES
DISCONNECT ENGINE TO AIRFRAME HARNESS PLUG AT ENGINE HARNESS RECEPTACLE. CHECK FOR CONTINUITY ON PLUG 055P1 BETWEEN PINS A, B, AND C. IS CONTINUITY PRESENT?
NO
REPLACE NO. 1 ENGINE HARNESS.
YES
DISCONNECT ENGINE TO AIRFRAME HARNESS PLUG 300P33. CHECK FOR CONTINUITY ON PLUG 055P1 BETWEEN PINS A, B, AND C. IS CONTINUITY PRESENT?
NO
REPLACE NO. 1 ENGINE TO AIRFRAME HARNESS.
YES
DISCONNECT PLUG 300P42 AT STA 98. CHECK FOR CONTINUITY ON PLUG 055P1 BETWEEN PINS A, B, AND C. IS CONTINUITY PRESENT?
NO
LOCATE SHORT ON WIRES W591-11-22, W591-12-22, OR W591-13-22 BETWEEN RECEPTACLE 300J3 AND PLUG 300P42 AT STA 98. REPAIR OR REPLACE WIRES AS REQUIRED.
YES
DISCONNECT PLUG 300P61. CHECK FOR CONTINUITY ON PLUG 055P1 BETWEEN PINS A, B, AND C. IS CONTINUITY PRESENT?
NO
LOCATE SHORT ON WIRES W645-1-22, W645-2-22, OR W645-3-22 BETWEEN RECEPTACLE 300J42 AT STA 98 AND RECEPTACLE 300J61. REPAIR OR REPLACE WIRES AS REQUIRED.
YES
LOCATE SHORT ON WIRES W557-4-22, W557-5-22, OR W557-6-22 BETWEEN PLUG 300P61 AND PLUG 055P1. REPAIR OR REPLACE WIRES AS REQUIRED.
NO
DISCONNECT ENGINE TO AIRFRAME HARNESS PLUG AT RECEPTACLE 300J33. CHECK FOR 30 OHMS RESISTANCE BETWEEN HARNESS PLUG PINS 25 AND 26 AND BETWEEN PINS 26 AND 27. IS RESISTANCE 30 OHMS IN BOTH CIRCUITS?
NO
YES
CHECK FOR CONTINUITY BETWEEN RECEPTACLE 300J33 PIN 27 AND PLUG 055P1 PIN A. IS CONTINUITY PRESENT?
NO
REPAIR OPEN IN WIRE W557-4-22 OR W645-1-22 OR W591-11-22.
YES
CHECK FOR CONTINUITY BETWEEN RECEPTACLE 300J33 PIN 25 AND PLUG 055P1 PIN B. IS CONTINUITY PRESENT?
NO
REPAIR OPEN IN WIRE W557-5-22, W645-2-22, OR W591-12-22.
YES
REPAIR OPEN IN WIRE W557-6-22 OR W645-3-22 OR W591-13-22.

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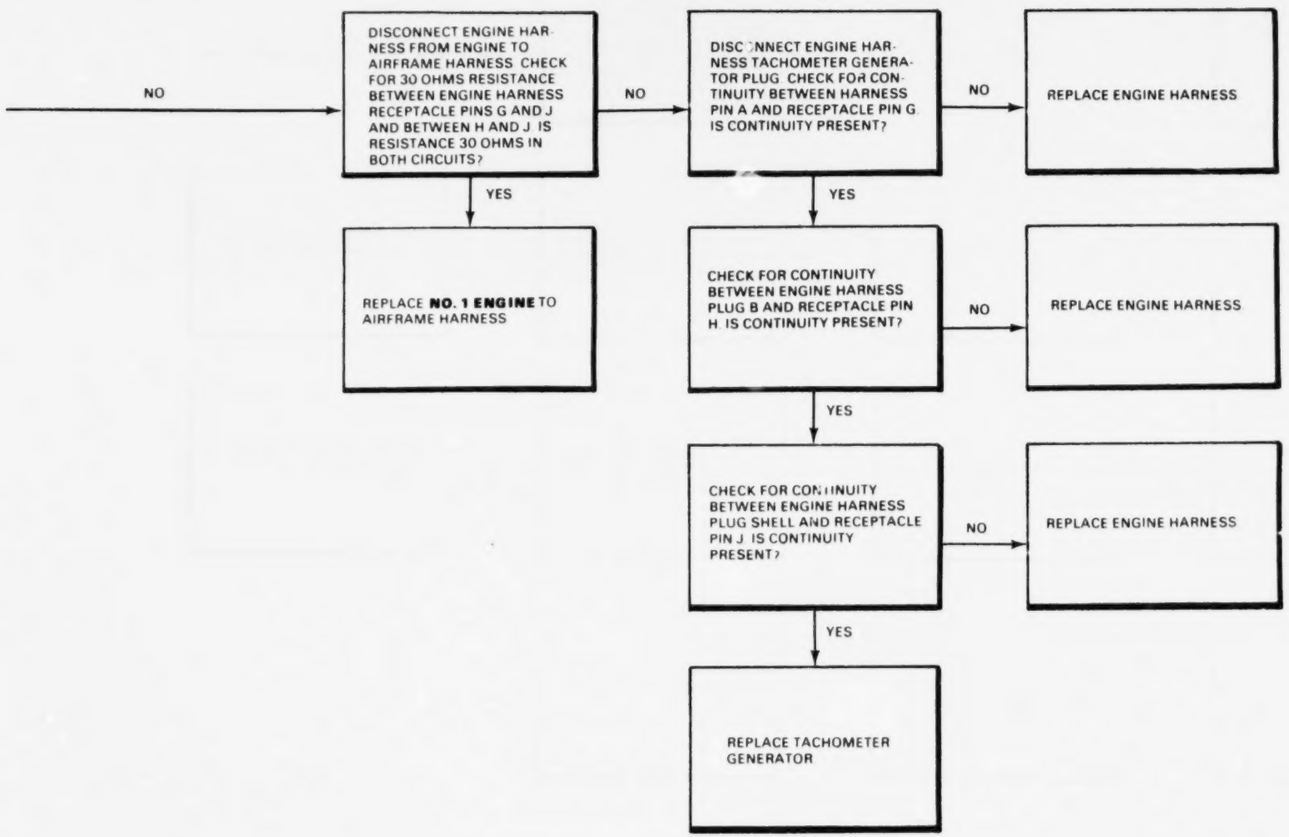
8-2.4 NO. 1 GAS PRODUCER TACHOMETER READS 0 PERCENT RPM WHEN NO. 1 ENGINE IS MOTORED (Continued)


NO
DISCONNECT ENGINE HARNESS FROM ENGINE TO AIRFRAME HARNESS. CHECK FOR 30 OHMS RESISTANCE BETWEEN ENGINE HARNESS RECEPTACLE PINS G AND J AND BETWEEN H AND J. IS RESISTANCE 30 OHMS IN BOTH CIRCUITS?
NO
DISCONNECT ENGINE HARNESS TACHOMETER GENERATOR PLUG. CHECK FOR CONTINUITY BETWEEN HARNESS PIN A AND RECEPTACLE PIN G IS CONTINUITY PRESENT?
NO
REPLACE ENGINE HARNESS
YES
REPLACE NO. 1 ENGINE TO AIRFRAME HARNESS
YES
CHECK FOR CONTINUITY BETWEEN ENGINE HARNESS PLUG B AND RECEPTACLE PIN H. IS CONTINUITY PRESENT?
NO
REPLACE ENGINE HARNESS
YES
CHECK FOR CONTINUITY BETWEEN ENGINE HARNESS PLUG SHELL AND RECEPTACLE PIN J. IS CONTINUITY PRESENT?
NO
REPLACE ENGINE HARNESS
YES
REPLACE TACHOMETER GENERATOR

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8-2.4 NO. 1 GAS PRODUCER TACHOMETER READS 0 PERCENT RPM WHEN NO. 1 ENGINE IS MOTORED (Continued)

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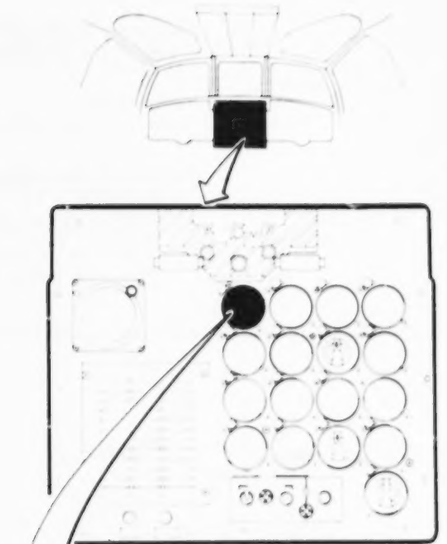

NO. 1 ENGINE GAS PRODUCER TACHOMETER

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END OF TASK

8-2.5 NO. 2 GAS PRODUCER TACHOMETER READS 0 PERCENT RPM WHEN NO. 2 ENGINE IS MOTORED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

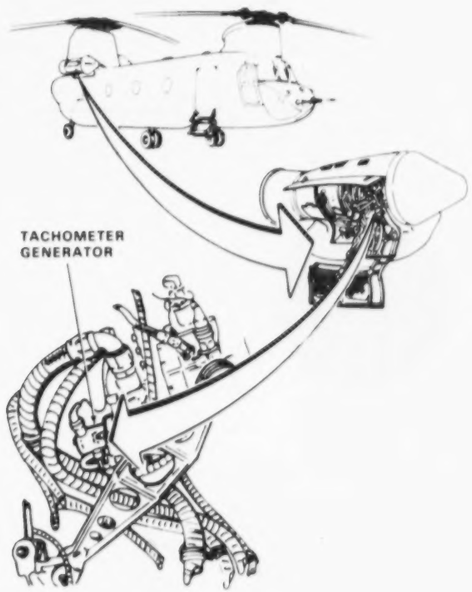
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power On



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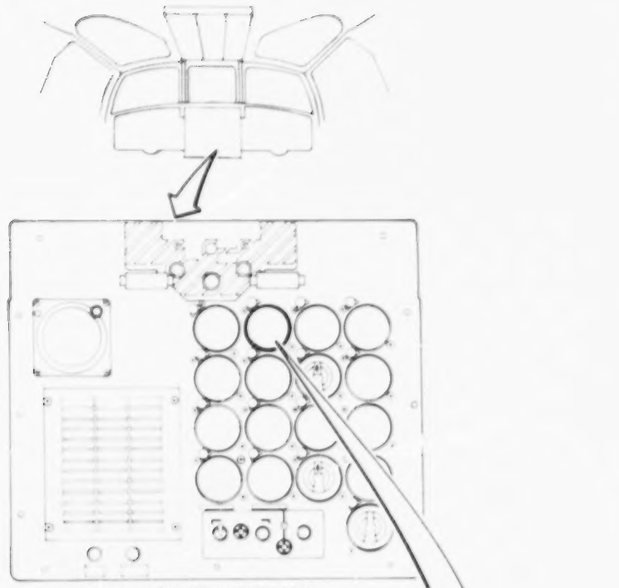

NO 2 ENGINE
GAS PRODUCER
TACHOMETER

D145-8514-SPA

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8-2.5 NO. 2 GAS PRODUCER TACHOMETER READS 0 PERCENT RPM WHEN NO. 2 ENGINE IS MOTORED (Continued)

REMOVE ELEC PWR. SUBSTITUTE **NO. 1** TACHOMETER FOR NO. 2 TACHOMETER. APPLY ELEC PWR AND MOTOR NO. 2 ENGINE. IS INDICATION MORE THAN 10 PERCENT?
NO
YES
REMOVE ELEC PWR. RETURN **NO. 1** TACHOMETER TO ORIGINAL POSITION. REPLACE NO. 2 TACHOMETER.
REMOVE ELEC PWR. RETURN NO. 1 TACHOMETER TO ORIGINAL POSITION. DISCONNECT TACHOMETER PLUG 055P2. CHECK FOR 30 OHMS RESISTANCE BETWEEN PINS A AND B OF 055P2 AND GROUND ON PLUG 051P1 PIN C. IS 30 OHMS RESISTANCE AND GROUND PRESENT?
NO
YES
REPLACE **NO. 2** TACHOMETER GENERATOR.
CHECK FOR CONTINUITY ON PLUG 055P2 BETWEEN PINS A, B, AND C. IS CONTINUITY PRESENT?
NO
YES
DISCONNECT ENGINE TO AIRFRAME HARNESS PLUG AT ENGINE HARNESS RECEPTACLE. CHECK FOR CONTINUITY ON PLUG 055P2 BETWEEN PINS A, B, AND C. IS CONTINUITY PRESENT?
NO
REPLACE NO. 2 ENGINE HARNESS.
YES
DISCONNECT ENGINE TO AIRFRAME HARNESS PLUG 300P32. CHECK FOR CONTINUITY ON PLUG 055P2 BETWEEN PINS A, B, AND C. IS CONTINUITY PRESENT?
NO
REPLACE NO. 2 ENGINE TO AIRFRAME HARNESS.
YES
DISCONNECT PLUG 300P43 AT STA 105. CHECK FOR CONTINUITY ON PLUG 055P2 BETWEEN PINS A, B, AND C. IS CONTINUITY PRESENT?
NO
LOCATE SHORT IN WIRES W592-11-22, W592-12-22, OR W592-13-22 BETWEEN RECEPTACLE 300J32 AND PLUG 300P43 AT STA 105. REPAIR OR REPLACE WIRES AS REQUIRED.
YES
DISCONNECT PLUG 300P15. CHECK FOR CONTINUITY ON PLUG 055P2 BETWEEN PINS A, B, AND C. IS CONTINUITY PRESENT?
NO
LOCATE SHORT ON WIRES W639-1-22, W639-2-22, OR W639-3-22 BETWEEN RECEPTACLE 300J43 AT STA 105 AND RECEPTACLE 300J15. REPAIR OR REPLACE WIRES AS REQUIRED.
YES
LOCATE SHORT ON WIRES W557-1-22, W557-2-22, OR W557-3-22 BETWEEN PLUG 300P15 AND PLUG 055P2. REPAIR OR REPLACE WIRES AS REQUIRED.
CONNECT PLUG 055P2. DISCONNECT ENGINE TO AIRFRAME HARNESS PLUG AT RECEPTACLE 300J32. CHECK FOR 30 OHMS RESISTANCE BETWEEN HARNESS PLUG PINS 25 AND 26 AND BETWEEN PINS 26 AND 27. IS RESISTANCE 30 OHMS IN BOTH CIRCUITS?
NO
YES
CHECK FOR CONTINUITY BETWEEN RECEPTACLE 300J32 PIN 27 AND PLUG 055P2 PIN A. IS CONTINUITY PRESENT?
NO
REPAIR OPEN IN WIRES W559-11-22, W639-1-22, OR W557-1-22.
YES
CHECK FOR CONTINUITY BETWEEN RECEPTACLE 300J32 PIN 26 AND PLUG 055P2 PIN C. IS CONTINUITY PRESENT?
NO
REPAIR OPEN IN WIRES W559-13-22, W639-3-22, OR W557-3-22.
YES
REPAIR OPEN IN WIRES W592-12-22, W639-2-22, W557-2-22.

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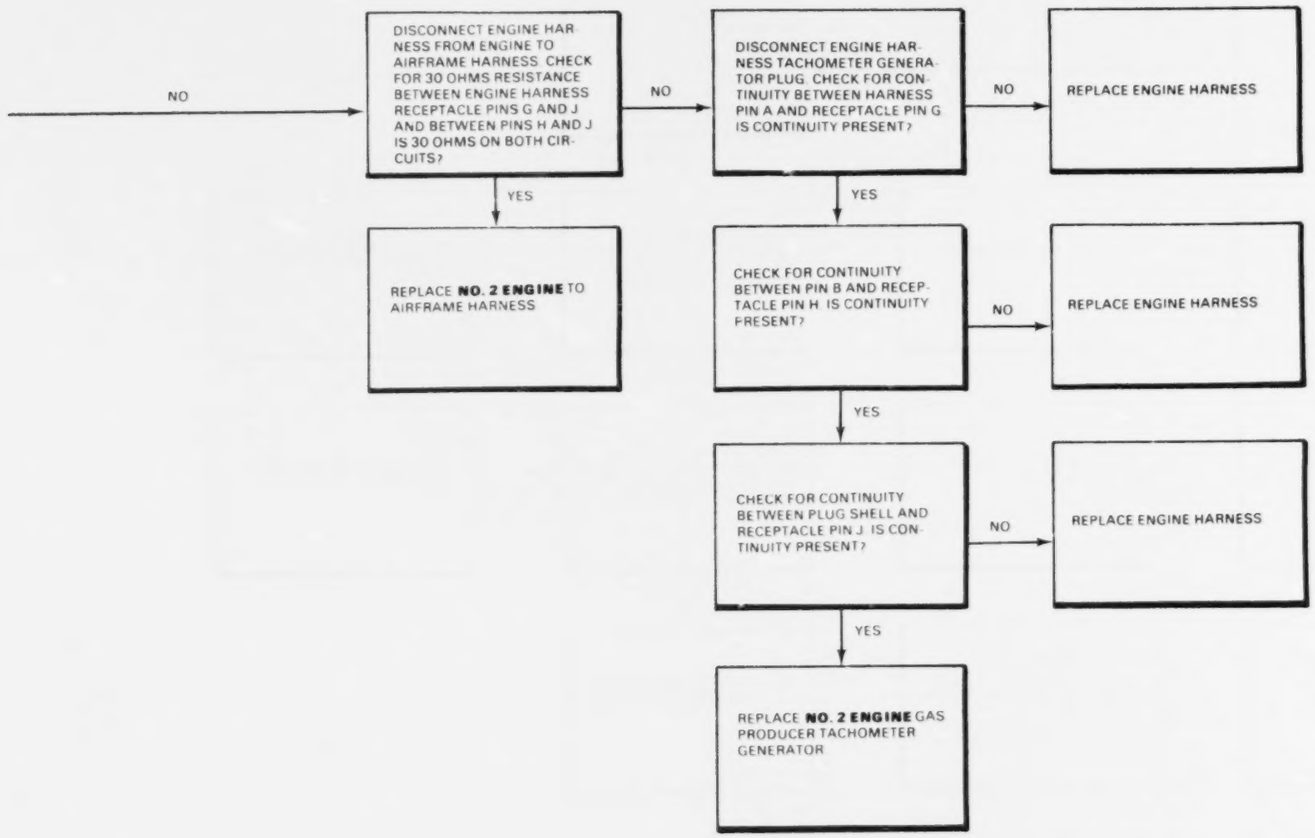
8-2.5 NO. 2 GAS PRODUCER TACHOMETER READS 0 PERCENT RPM WHEN NO. 2 ENGINE IS MOTORED (Continued)


NO
DISCONNECT ENGINE HARNESS FROM ENGINE TO AIRFRAME HARNESS. CHECK FOR 30 OHMS RESISTANCE BETWEEN ENGINE HARNESS RECEPTACLE PINS G AND J AND BETWEEN PINS H AND J IS 30 OHMS ON BOTH CIRCUITS?
NO
DISCONNECT ENGINE HARNESS TACHOMETER GENERATOR PLUG. CHECK FOR CONTINUITY BETWEEN HARNESS PIN A AND RECEPTACLE PIN G IS CONTINUITY PRESENT?
NO
REPLACE ENGINE HARNESS
YES
REPLACE NO. 2 ENGINE TO AIRFRAME HARNESS
YES
CHECK FOR CONTINUITY BETWEEN PIN B AND RECEPTACLE PIN H IS CONTINUITY PRESENT?
NO
REPLACE ENGINE HARNESS
YES
CHECK FOR CONTINUITY BETWEEN PLUG SHELL AND RECEPTACLE PIN J IS CONTINUITY PRESENT?
NO
REPLACE ENGINE HARNESS
YES
REPLACE NO. 2 ENGINE GAS PRODUCER TACHOMETER GENERATOR

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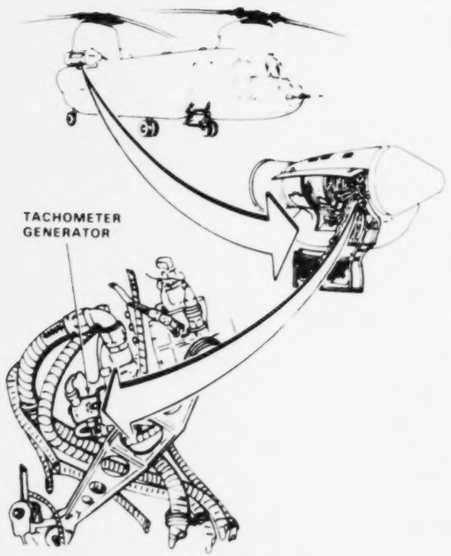
8-2.5 NO. 2 GAS PRODUCER TACHOMETER READS 0 PERCENT RPM WHEN NO. 2 ENGINE IS MOTORED (Continued)



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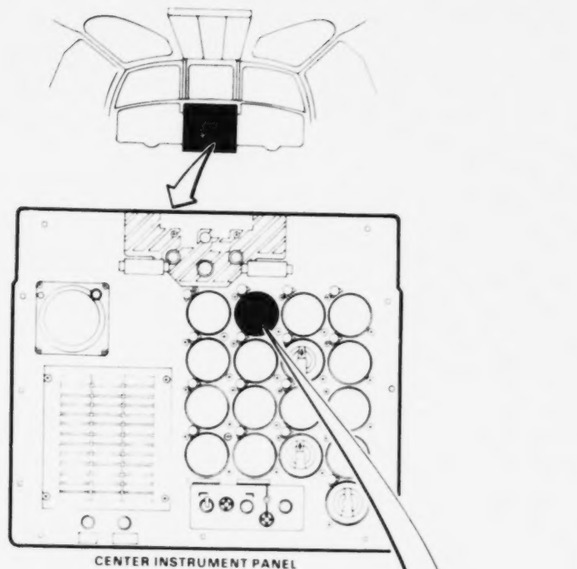


NO 2 ENGINE
GAS PRODUCER
TACHOMETER

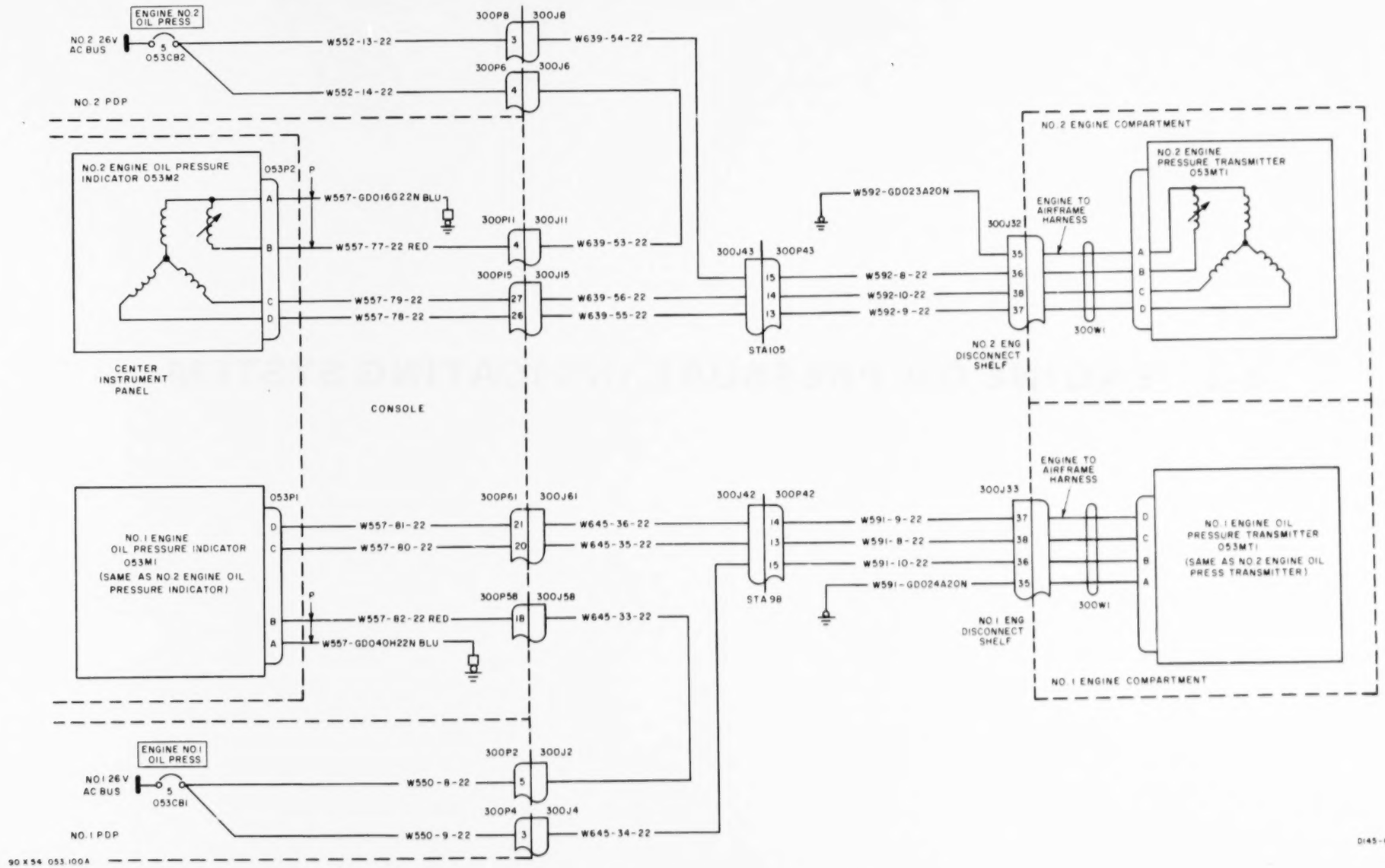
D145 – 11844 – SPA

END OF TASK

8-3 ENGINE OIL PRESSURE INDICATING SYSTEM

8-3 ENGINE OIL PRESSURE INDICATING SYSTEM

8-3.1 ENGINE OIL PRESSURE INDICATING SYSTEM WIRING DIAGRAM



8-3.2 ENGINE OIL PRESSURE INDICATING SYSTEM VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Aircraft Mechanic's Tool Kit,
NSN 5180-00-323-4692

Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer

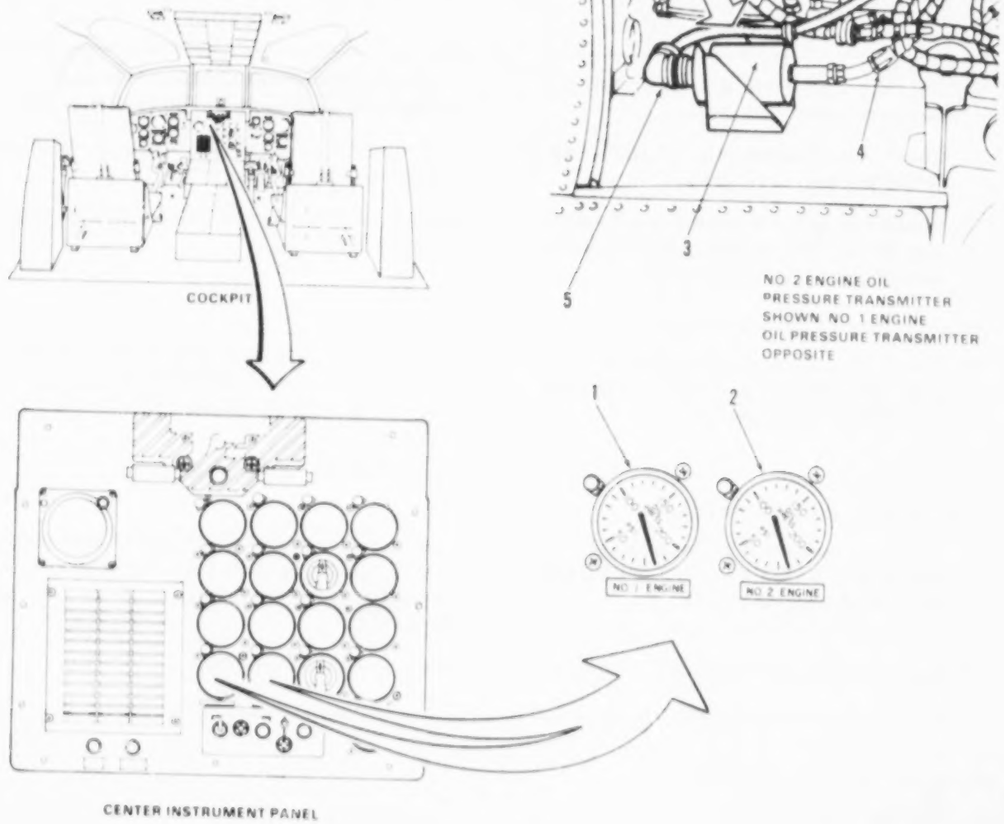
References:
TM 55-1520-240-23

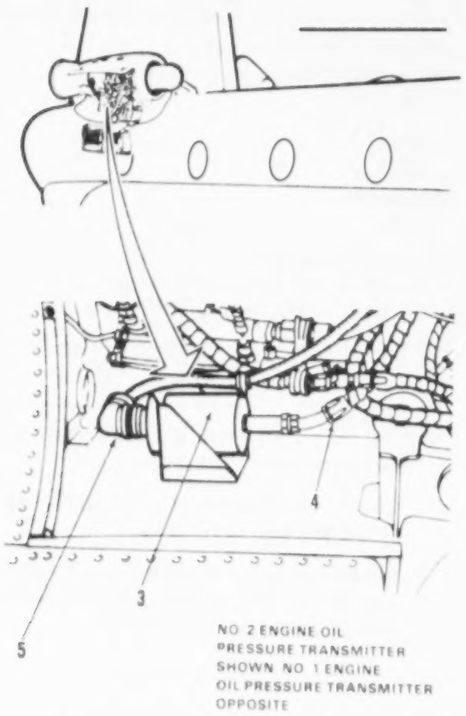
Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Upper and Lower Engine Access Doors Open
Engine Work Platforms Open

TASK	RESULT
1 **Check NO. 1 ENGINE OIL PRESS indicator (1).**	If indicator (1) is damaged, replace it.
2 **Check NO. 2 ENGINE OIL PRESS indicator (2).**	If indicator (2) is damaged, replace it.
CHECK NO. 2 ENGINE INSTALLATION	
3 Check No. 2 engine oil pressure transmitter (3).	If transmitter (3) is loose or damaged, tighten or replace it. If oil is leaking from transmitter, tighten connection if loose or replace it as required. If connector (5) or wiring is damaged, replace harness.
CHECK NO. 1 ENGINE INSTALLATION	
4 Check No. 1 engine oil pressure transmitter (3).	If transmitter (3) is loose or damaged, tighten or replace it. If oil is leaking from transmitter, tighten connection if loose or replace transmitter. If oil line (4) is leaking oil or is damaged, tighten or replace it as required. If connector (5) or wiring is damaged, replace harness.

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23
Close upper and lower engine access doors.
Close engine work platforms.





NO. 2 ENGINE OIL PRESSURE TRANSMITTER SHOWN. NO. 1 ENGINE OIL PRESSURE TRANSMITTER OPPOSITE

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END OF TASK

8-3.3 ENGINE OIL PRESSURE INDICATING SYSTEM OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
None

Materials:
None

Personnel Required:
100C0 Army Rotary Wing Aviator (2)
67U20 Medium Helicopter Repairer

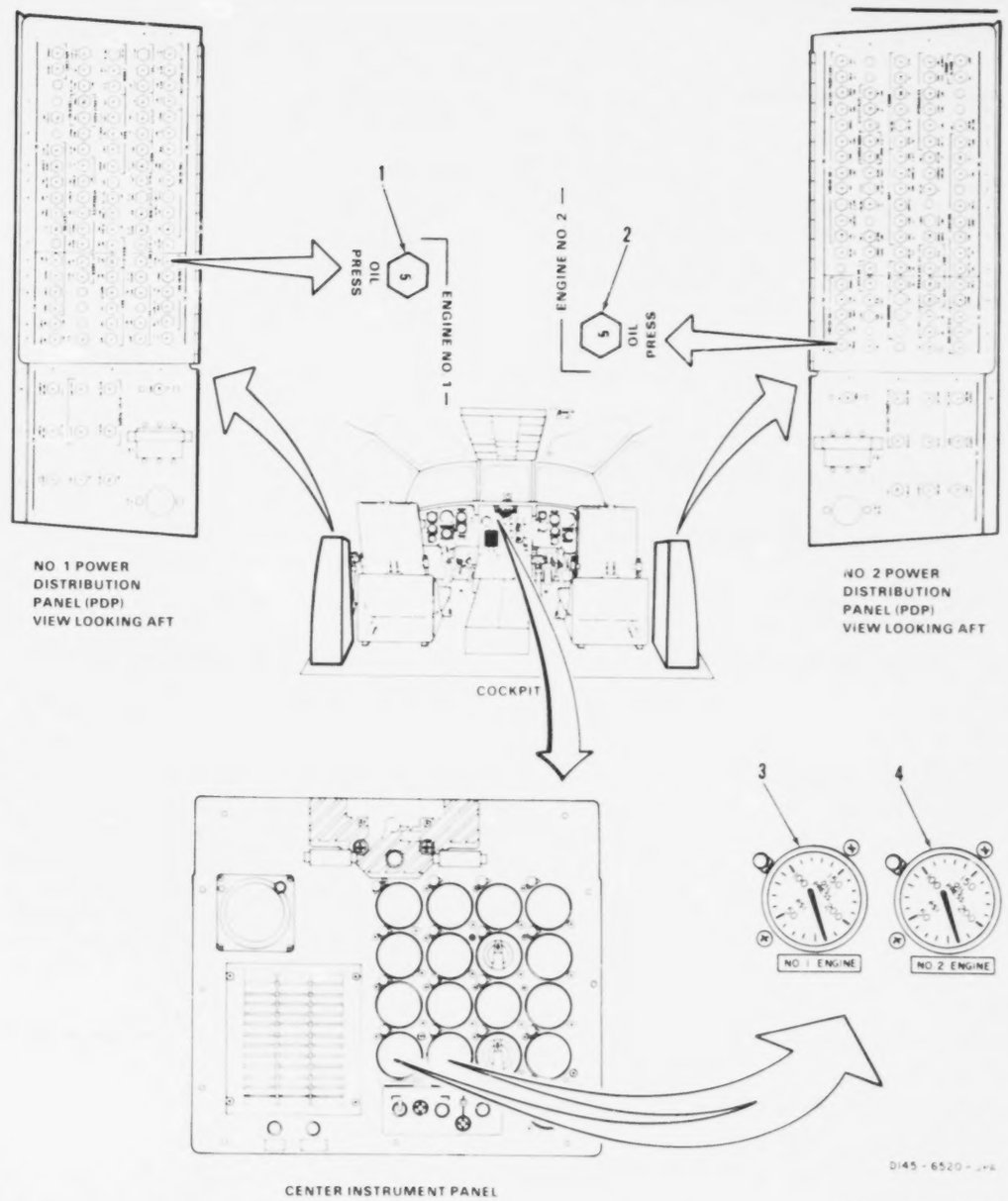
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power On
Engine Oil Pressure Indicating System Visual Check Performed (Task 8-3.2)

TASK	RESULT
1. **Check** that **ENGINE NO. 1 OIL PRESS circuit breaker (1)** is closed.	If **OIL PRESS circuit breaker (1) is open, close it. If it opens again, go to task 8-3.4.**
2. **Check** that **ENGINE NO. 2 OIL PRESS circuit breaker (2)** is closed.	If OIL PRESS circuit breaker (2) is open, close it. If it opens again, go to task 8-3.4.
3. **Check** that **NO. 1 ENGINE OIL PRESS and NO. 2 ENGINE OIL PRESS indicators (3 and 4)** indicate 0.	If either indicator (3 or 4) does not indicate 0, go to task 8-3.5.
CHECK NO. 1 ENGINE SYSTEM	
4. Have pilot **operate No. 1 engine to GROUND IDLE. Check NO. 1 ENGINE OIL PRESS indicator (3).**	Indicator (3) shall indicate 20 psi minimum with pointer fluctuations less than 5 psi. If indication is below 20 psi or is fluctuating more than 5 psi, go to task 8-3.6.
5. Have pilot stop No. 1 engine.	Indicator (3) shall indicator 0.
CHECK NO. 2 ENGINE SYSTEM	
6. Have pilot **operate No. 2 engine to GROUND IDLE. Check NO. 2 ENGINE OIL PRESS indicator (4).**	Indicator (4) shall indicate 20 psi minimum with pointer fluction less than 5 psi. If indication is below 20 psi or is fluctuating more than 5 psi, go to task 8-3.7.
7. Have pilot stop No. 2 engine.	Indicator (4) shall indicate 0.

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23:
Electrical Power OFF
Hydraulic Power OFF
Battery Disconnected



END OF TASK

8-3.4 ENGINE OIL PRESS CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

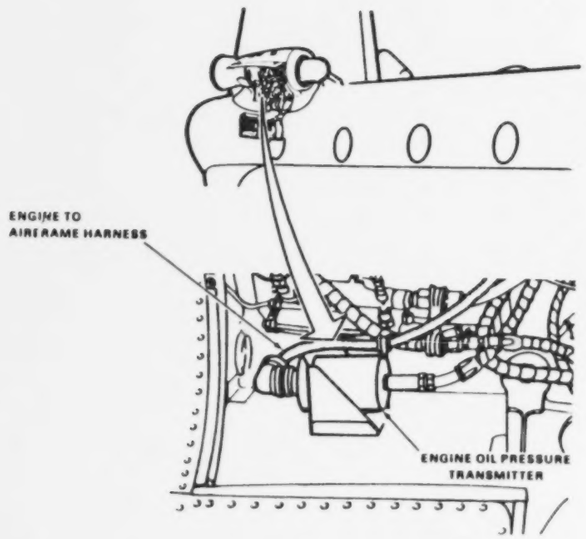
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Material's:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



NO. 2 ENGINE OIL PRESSURE TRANSMITTER SHOWN. NO. 1 ENGINE OIL PRESSURE TRANSMITTER OPPOSITE

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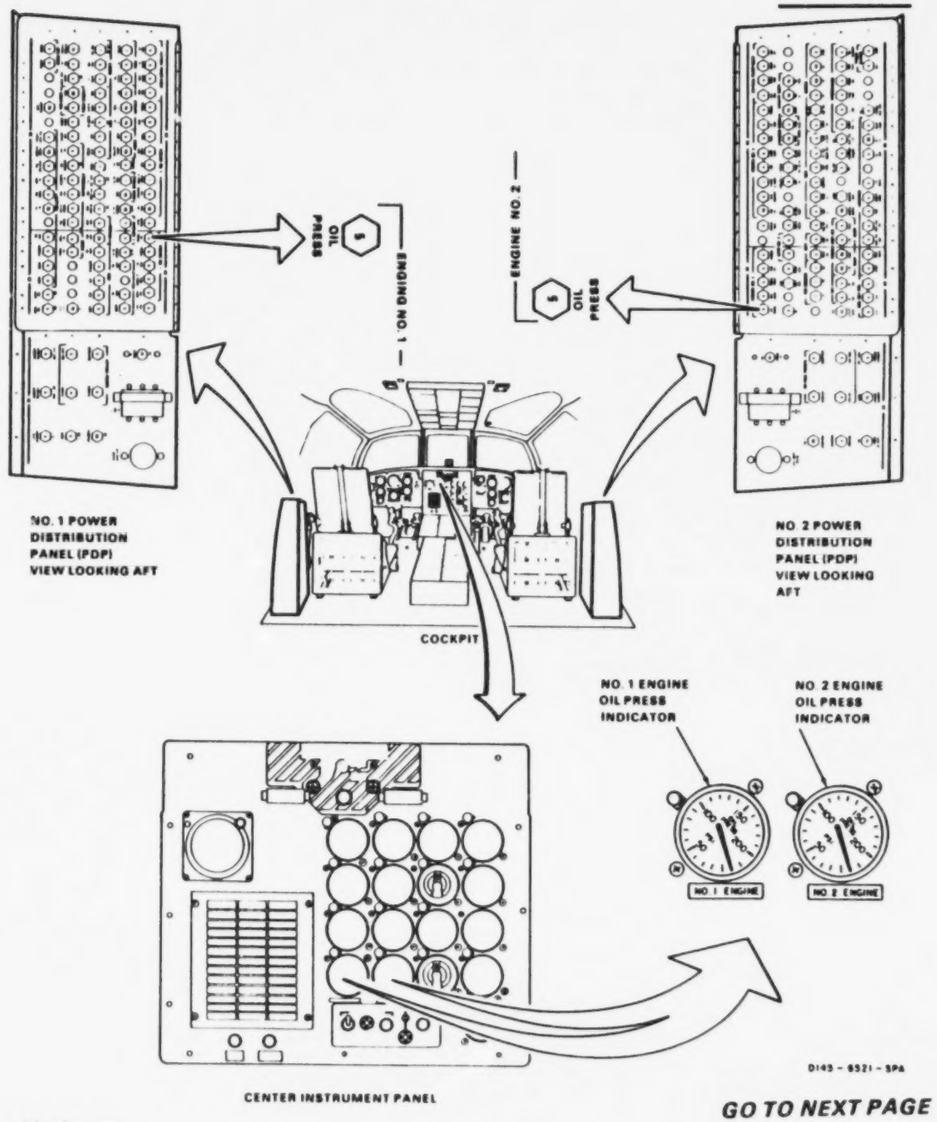
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
ENGINE NO. 1
OIL PRESS
ENGINE NO. 2
OIL PRESS
NO. 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
COCKPIT
NO. 1 ENGINE OIL PRESS INDICATOR
NO. 2 ENGINE OIL PRESS INDICATOR
NO 1 ENGINE
NO 2 ENGINE
CENTER INSTRUMENT PANEL

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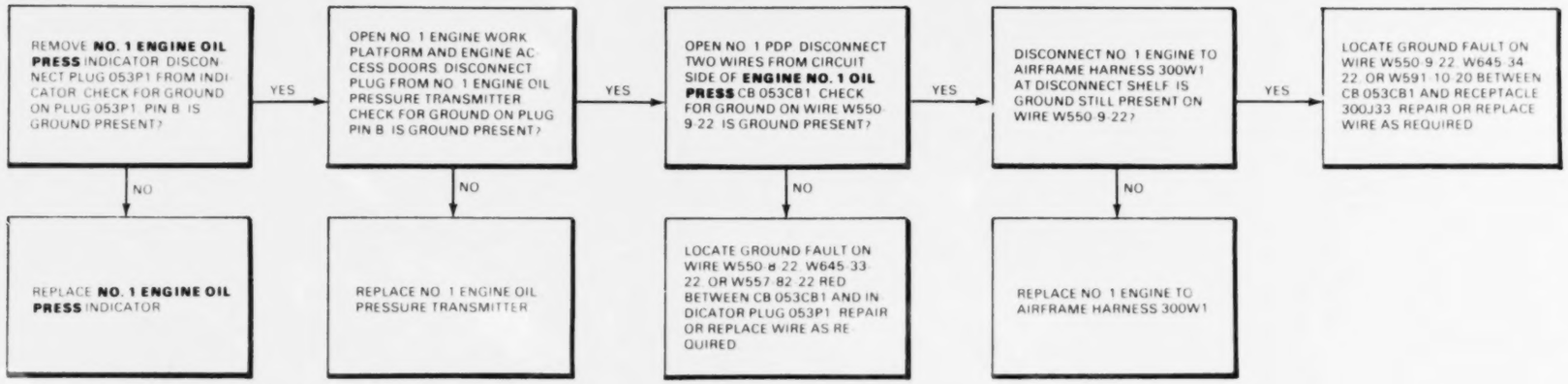
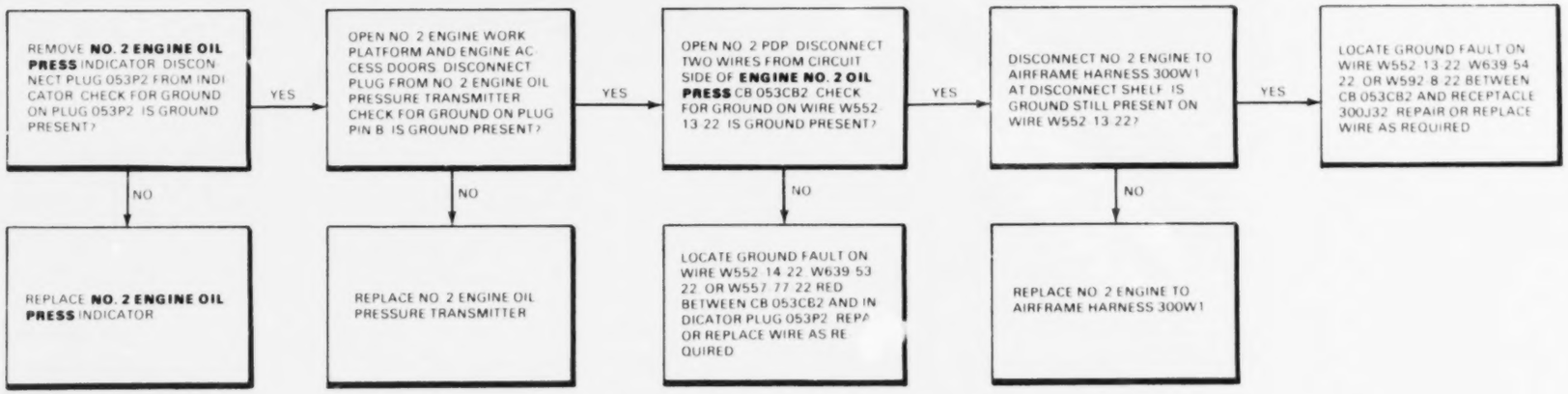
8-3.4 ENGINE OIL PRESS CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)

ENGINE NO. 1 OIL PRESS CIRCUIT BREAKER DOES NOT STAY CLOSED


REMOVE **NO. 1 ENGINE OIL PRESS** INDICATOR. DISCONNECT PLUG 053P1 FROM INDICATOR. CHECK FOR GROUND ON PLUG 053P1 PIN B. IS GROUND PRESENT?
YES
OPEN NO. 1 ENGINE WORK PLATFORM AND ENGINE ACCESS DOORS. DISCONNECT PLUG FROM NO. 1 ENGINE OIL PRESSURE TRANSMITTER. CHECK FOR GROUND ON PLUG PIN B. IS GROUND PRESENT?
YES
OPEN NO. 1 PDP. DISCONNECT TWO WIRES FROM CIRCUIT SIDE OF **ENGINE NO. 1 OIL PRESS** CB 053CB1. CHECK FOR GROUND ON WIRE W550-9-22. IS GROUND PRESENT?
YES
DISCONNECT NO. 1 ENGINE TO AIRFRAME HARNESS 300W1 AT DISCONNECT SHELF. IS GROUND STILL PRESENT ON WIRE W550-9-22?
YES
LOCATE GROUND FAULT ON WIRE W550-9-22, W645-34-22, OR W591-10-20 BETWEEN CB 053CB1 AND RECEPTACLE 300J33. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE **NO. 1 ENGINE OIL PRESS** INDICATOR
NO
REPLACE NO. 1 ENGINE OIL PRESSURE TRANSMITTER
NO
LOCATE GROUND FAULT ON WIRE W550-8-22, W645-33-22, OR W557-82-22 RED BETWEEN CB 053CB1 AND INDICATOR PLUG 053P1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE NO. 1 ENGINE TO AIRFRAME HARNESS 300W1

ENGINE NO. 2 OIL PRESS CIRCUIT BREAKER DOES NOT STAY CLOSED


REMOVE **NO. 2 ENGINE OIL PRESS** INDICATOR. DISCONNECT PLUG 053P2 FROM INDICATOR. CHECK FOR GROUND ON PLUG 053P2. IS GROUND PRESENT?
YES
OPEN NO. 2 ENGINE WORK PLATFORM AND ENGINE ACCESS DOORS. DISCONNECT PLUG FROM NO. 2 ENGINE OIL PRESSURE TRANSMITTER. CHECK FOR GROUND ON PLUG PIN B. IS GROUND PRESENT?
YES
OPEN NO. 2 PDP. DISCONNECT TWO WIRES FROM CIRCUIT SIDE OF **ENGINE NO. 2 OIL PRESS** CB 053CB2. CHECK FOR GROUND ON WIRE W552-13-22. IS GROUND PRESENT?
YES
DISCONNECT NO. 2 ENGINE TO AIRFRAME HARNESS 300W1 AT DISCONNECT SHELF. IS GROUND STILL PRESENT ON WIRE W552-13-22?
YES
LOCATE GROUND FAULT ON WIRE W552-13-22, W639-54-22, OR W592-8-22 BETWEEN CB 053CB2 AND RECEPTACLE 300J32. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE **NO. 2 ENGINE OIL PRESS** INDICATOR
NO
REPLACE NO. 2 ENGINE OIL PRESSURE TRANSMITTER
NO
LOCATE GROUND FAULT ON WIRE W552-14-22, W639-53-22, OR W557-77-22 RED BETWEEN CB 053CB2 AND INDICATOR PLUG 053P2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE NO. 2 ENGINE TO AIRFRAME HARNESS 300W1

END OF TASK

8-3.5 ENGINE OIL PRESSURE INDICATOR DOES NOT INDICATE 0

FAULT ISOLATION PROCEDURE

INITIAL SETUP

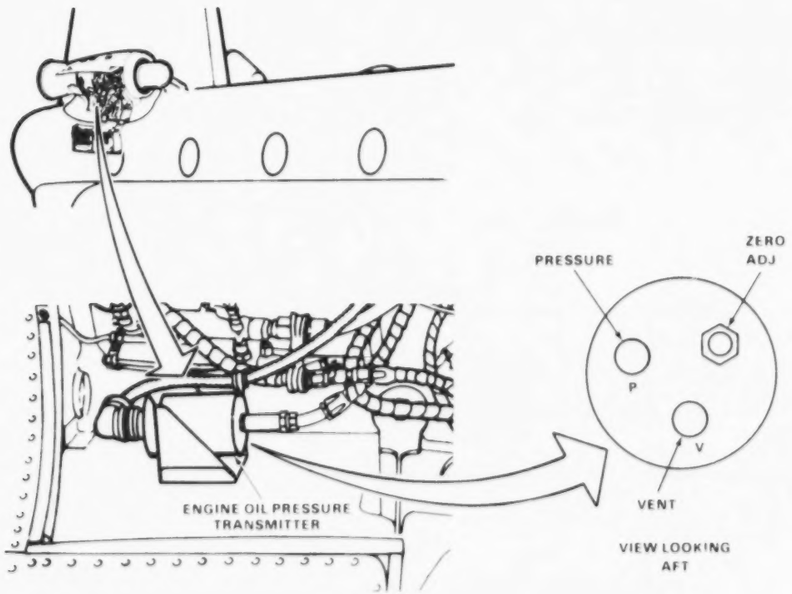
Applicable Configurations:
All

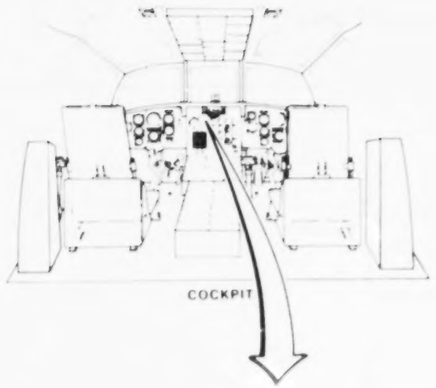
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

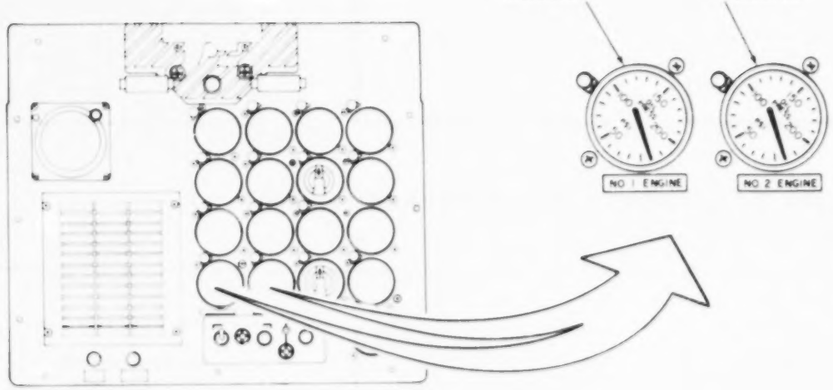
Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off







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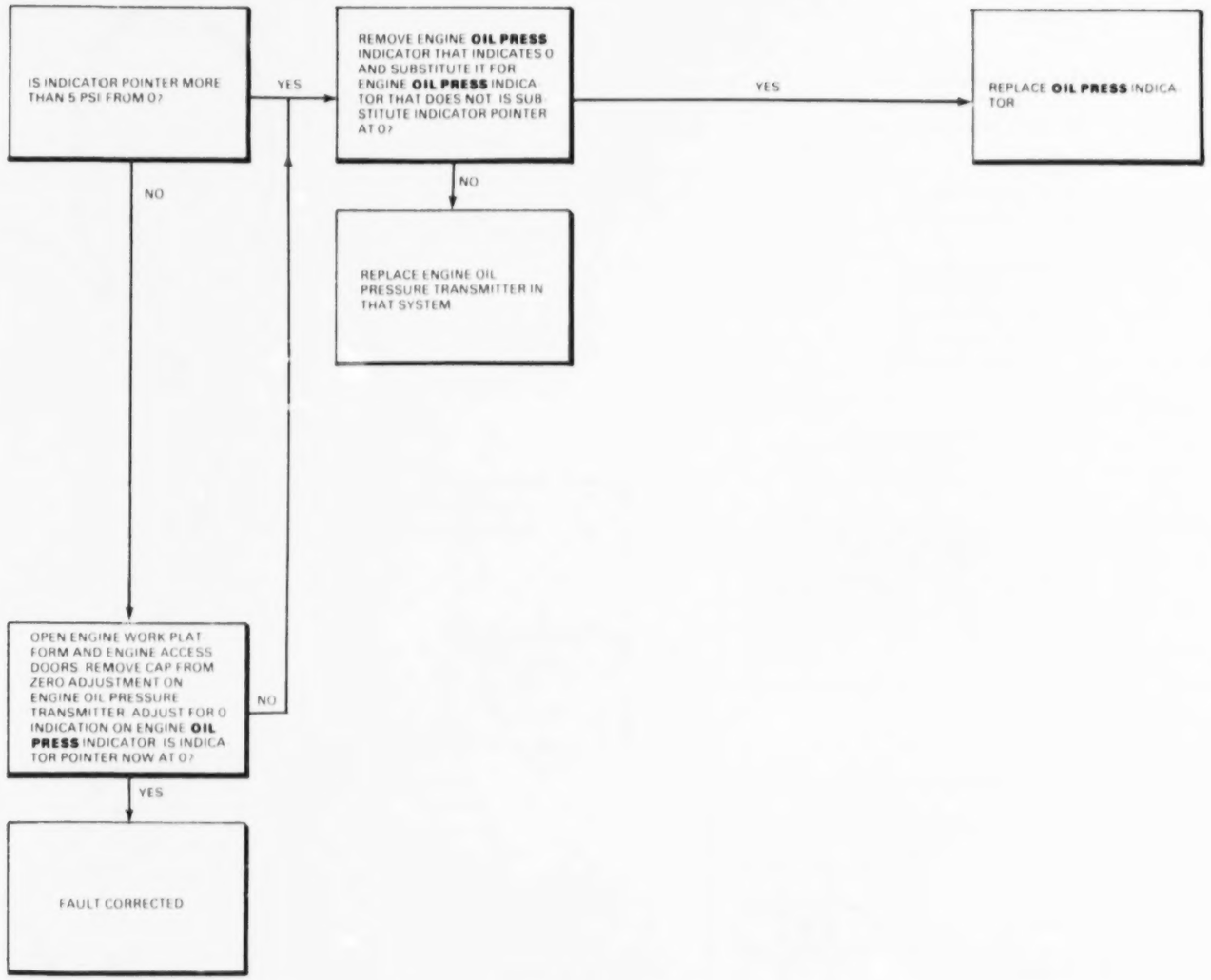
8-3.5 ENGINE OIL PRESSURE INDICATOR DOES NOT INDICATE 0 (Continued)


IS INDICATOR POINTER MORE THAN 5 PSI FROM 0?
YES
REMOVE ENGINE OIL PRESS INDICATOR THAT INDICATES 0 AND SUBSTITUTE IT FOR ENGINE OIL PRESS INDICATOR THAT DOES NOT. IS SUBSTITUTE INDICATOR POINTER AT 0?
YES
REPLACE OIL PRESS INDICATOR
NO
REPLACE ENGINE OIL PRESSURE TRANSMITTER IN THAT SYSTEM
NO
OPEN ENGINE WORK PLATFORM AND ENGINE ACCESS DOORS. REMOVE CAP FROM ZERO ADJUSTMENT ON ENGINE OIL PRESSURE TRANSMITTER. ADJUST FOR 0 INDICATION ON ENGINE OIL PRESS INDICATOR. IS INDICATOR POINTER NOW AT 0?
NO
YES
FAULT CORRECTED

END OF TASK

8-3.6 NO. 1 ENGINE OIL PRESS INDICATOR DOES NOT INDICATE 20 PSI MINIMUM OR POINTER FLUCTUATES MORE THAN 5 PSI

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

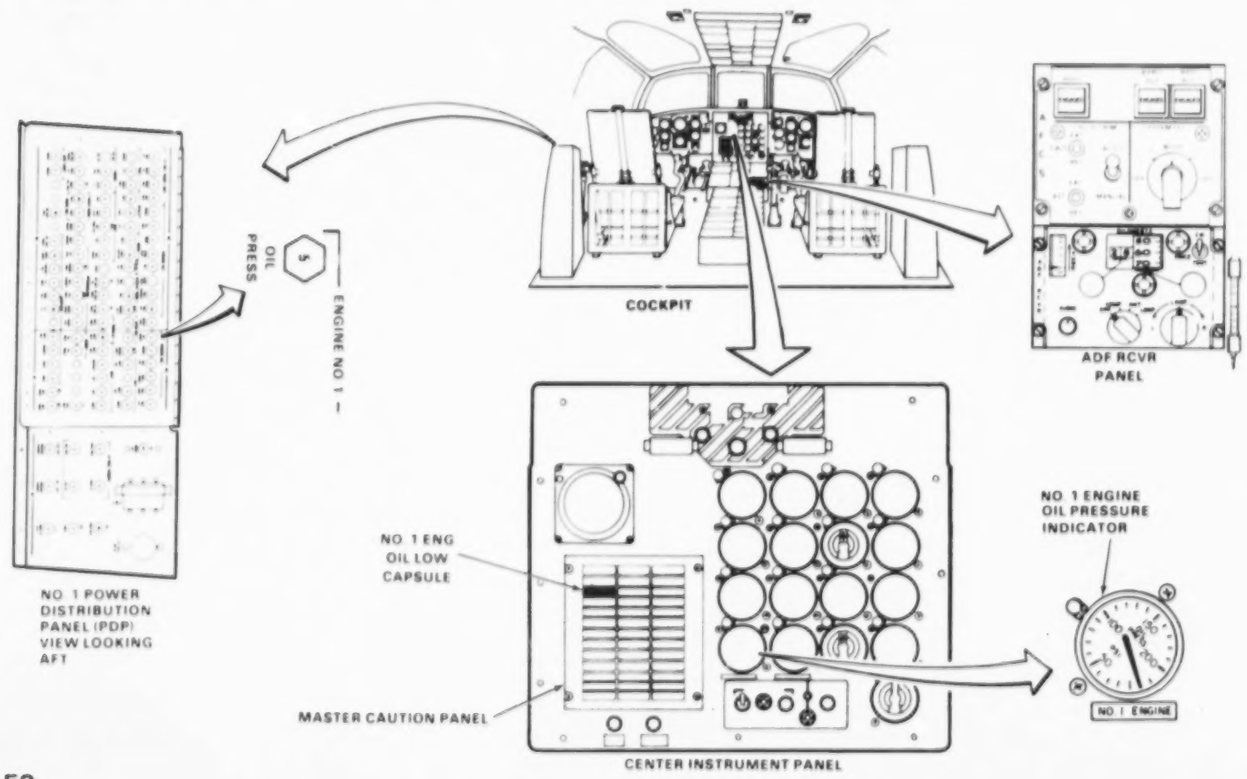
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter
Synchro Test Set,
NSN 4920-00-556-8108
Direct Reading Pressure Gage, 0 to 200 Psi

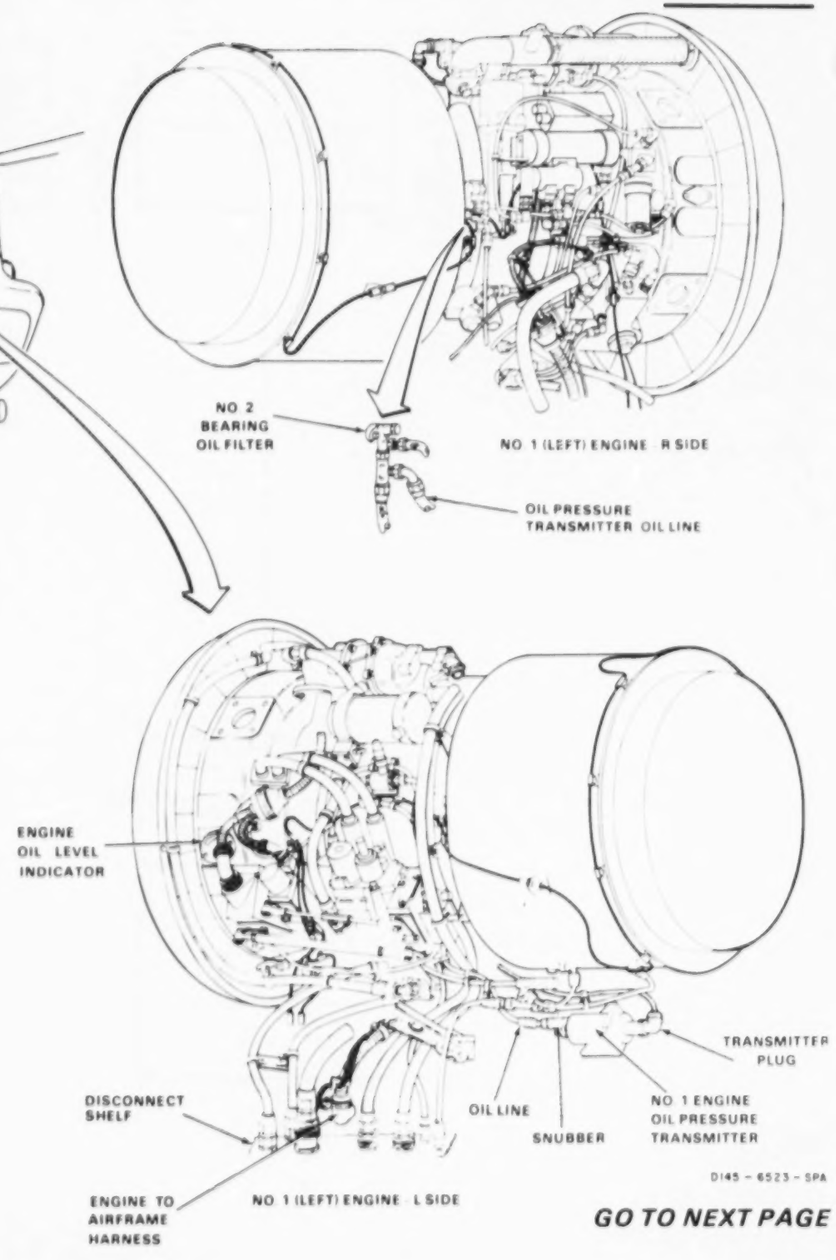
Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23
TM 55-2840-234-24/2

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off




NO. 2 BEARING OIL FILTER
NO. 1 (LEFT) ENGINE - R SIDE
OIL PRESSURE TRANSMITTER OIL LINE
ENGINE OIL LEVEL INDICATOR
TRANSMITTER PLUG
DISCONNECT SHELF
OIL LINE
SNUBBER
NO. 1 ENGINE OIL PRESSURE TRANSMITTER
ENGINE TO AIRFRAME HARNESS
NO. 1 (LEFT) ENGINE - L SIDE
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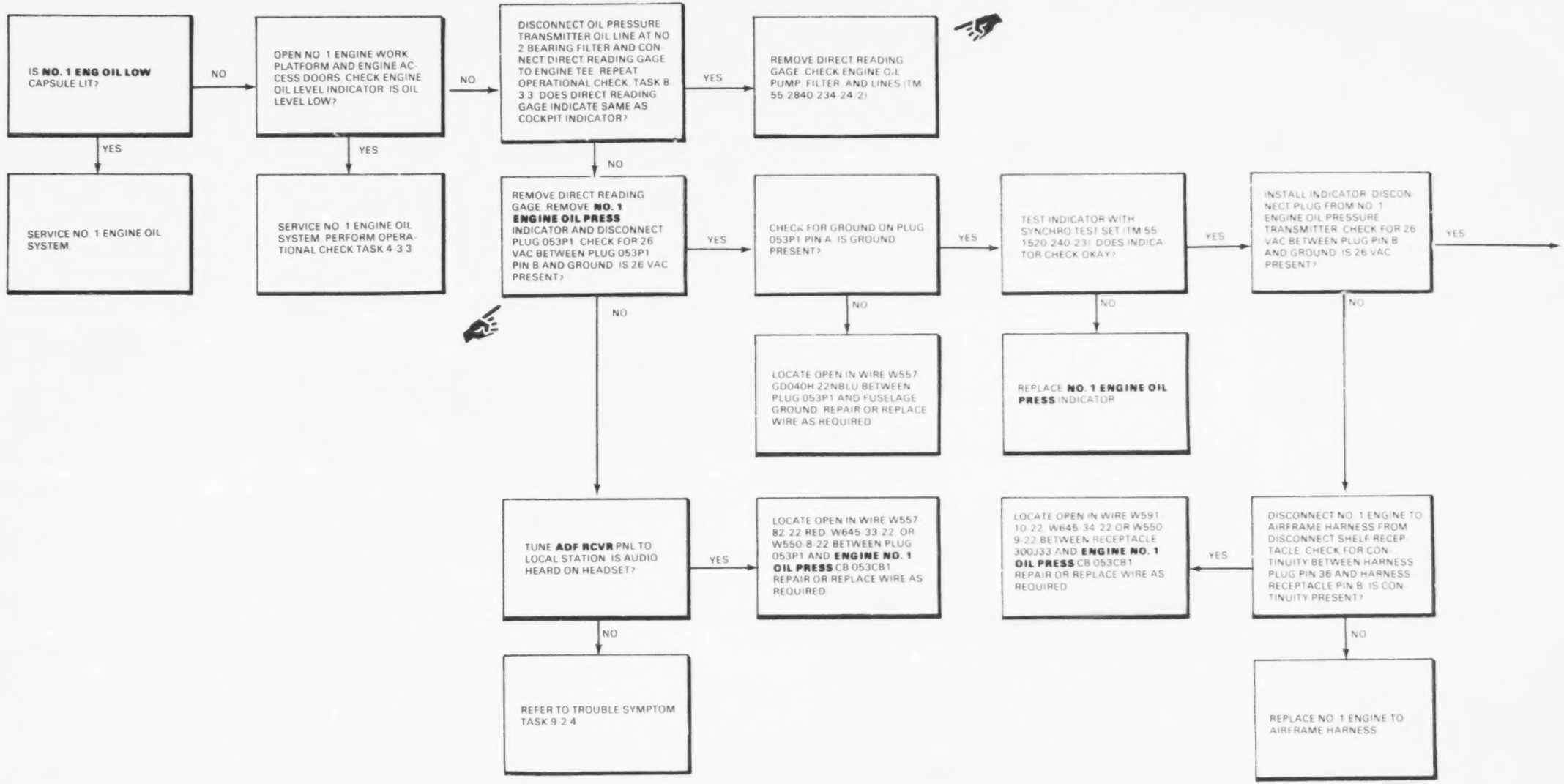
8-3.6 NO. 1 ENGINE OIL PRESS INDICATOR DOES NOT INDICATE 20 PSI MINIMUM OR POINTER FLUCTUATES MORE THAN 5 PSI (Continued)


IS NO. 1 ENG OIL LOW CAPSULE LIT?
NO
YES
OPEN NO. 1 ENGINE WORK PLATFORM AND ENGINE ACCESS DOORS. CHECK ENGINE OIL LEVEL INDICATOR. IS OIL LEVEL LOW?
NO
YES
DISCONNECT OIL PRESSURE TRANSMITTER OIL LINE AT NO. 2 BEARING FILTER AND CONNECT DIRECT READING GAGE TO ENGINE TEE. REPEAT OPERATIONAL CHECK, TASK 8-3.3. DOES DIRECT READING GAGE INDICATE SAME AS COCKPIT INDICATOR?
YES
REMOVE DIRECT READING GAGE. CHECK ENGINE OIL PUMP, FILTER, AND LINES (TM 55-2840-234-24-2).
NO
SERVICE NO. 1 ENGINE OIL SYSTEM
SERVICE NO. 1 ENGINE OIL SYSTEM. PERFORM OPERATIONAL CHECK, TASK 4-3.3.
REMOVE DIRECT READING GAGE. REMOVE NO. 1 ENGINE OIL PRESS INDICATOR AND DISCONNECT PLUG 053P1. CHECK FOR 26 VAC BETWEEN PLUG 053P1 PIN B AND GROUND. IS 26 VAC PRESENT?
YES
CHECK FOR GROUND ON PLUG 053P1 PIN A. IS GROUND PRESENT?
YES
TEST INDICATOR WITH SYNCHRO TEST SET (TM 55-1520-240-23). DOES INDICATOR CHECK OKAY?
YES
INSTALL INDICATOR. DISCONNECT PLUG FROM NO. 1 ENGINE OIL PRESSURE TRANSMITTER. CHECK FOR 26 VAC BETWEEN PLUG PIN B AND GROUND. IS 26 VAC PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-GD040H-22NBLU BETWEEN PLUG 053P1 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE NO. 1 ENGINE OIL PRESS INDICATOR
NO
DISCONNECT NO. 1 ENGINE TO AIRFRAME HARNESS FROM DISCONNECT SHELF RECEPTACLE. CHECK FOR CONTINUITY BETWEEN HARNESS PLUG PIN 36 AND HARNESS RECEPTACLE PIN B. IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRE W591-10-22, W645-34-22 OR W550-9-22 BETWEEN RECEPTACLE 300J33 AND ENGINE NO. 1 OIL PRESS CB 053CB1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE NO. 1 ENGINE TO AIRFRAME HARNESS
TUNE ADF RCVR PNL TO LOCAL STATION. IS AUDIO HEARD ON HEADSET?
YES
LOCATE OPEN IN WIRE W557-82-22 RED, W645-33-22 OR W550-8-22 BETWEEN PLUG 053P1 AND ENGINE NO. 1 OIL PRESS CB 053CB1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REFER TO TROUBLE SYMPTOM TASK 9-2.4

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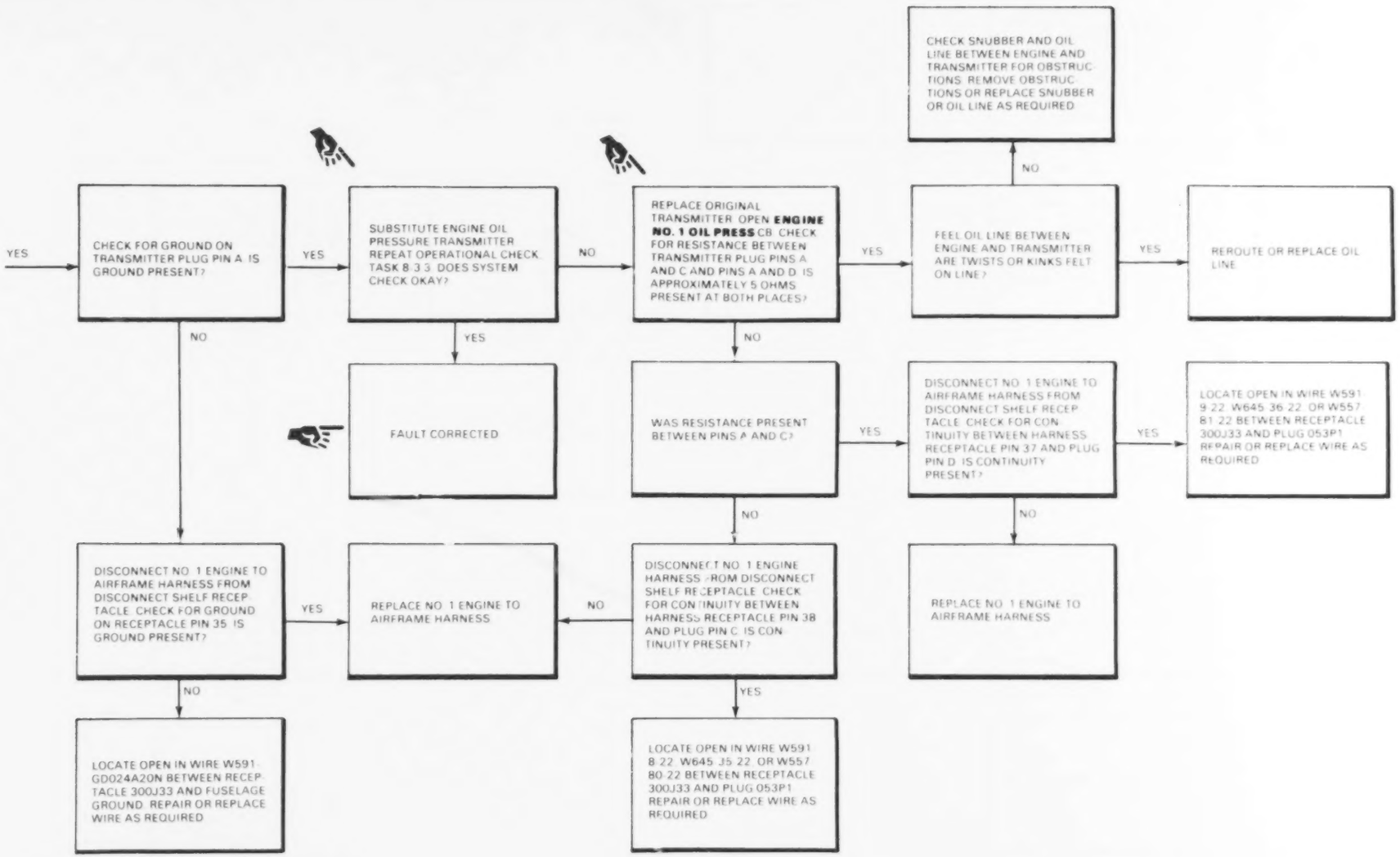
8-3.6 NO. 1 ENGINE OIL PRESS INDICATOR DOES NOT INDICATE 20 PSI MINIMUM OR POINTER FLUCTUATES MORE THAN 5 PSI (Continued)


CHECK FOR GROUND ON TRANSMITTER PLUG PIN A. IS GROUND PRESENT?
YES
NO
SUBSTITUTE ENGINE OIL PRESSURE TRANSMITTER. REPEAT OPERATIONAL CHECK, TASK 8-3.3. DOES SYSTEM CHECK OKAY?
YES
NO
FAULT CORRECTED
REPLACE ORIGINAL TRANSMITTER. OPEN ENGINE NO. 1 OIL PRESS CB. CHECK FOR RESISTANCE BETWEEN TRANSMITTER PLUG PINS A AND C AND PINS A AND D. IS APPROXIMATELY 5 OHMS PRESENT AT BOTH PLACES?
YES
NO
WAS RESISTANCE PRESENT BETWEEN PINS A AND C?
YES
NO
FEEL OIL LINE BETWEEN ENGINE AND TRANSMITTER. ARE TWISTS OR KINKS FELT ON LINE?
YES
NO
REROUTE OR REPLACE OIL LINE.
CHECK SNUBBER AND OIL LINE BETWEEN ENGINE AND TRANSMITTER FOR OBSTRUCTIONS. REMOVE OBSTRUCTIONS OR REPLACE SNUBBER OR OIL LINE AS REQUIRED.
DISCONNECT NO. 1 ENGINE TO AIRFRAME HARNESS FROM DISCONNECT SHELF RECEPTACLE. CHECK FOR CONTINUITY BETWEEN HARNESS RECEPTACLE PIN 37 AND PLUG PIN D. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W591-9-22, W645-36-22, OR W557-81-22 BETWEEN RECEPTACLE 300J33 AND PLUG 053P1. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE NO. 1 ENGINE TO AIRFRAME HARNESS
DISCONNECT NO. 1 ENGINE HARNESS FROM DISCONNECT SHELF RECEPTACLE. CHECK FOR CONTINUITY BETWEEN HARNESS RECEPTACLE PIN 38 AND PLUG PIN C. IS CONTINUITY PRESENT?
NO
YES
REPLACE NO. 1 ENGINE TO AIRFRAME HARNESS
DISCONNECT NO. 1 ENGINE TO AIRFRAME HARNESS FROM DISCONNECT SHELF RECEPTACLE. CHECK FOR GROUND ON RECEPTACLE PIN 35. IS GROUND PRESENT?
YES
NO
LOCATE OPEN IN WIRE W591-GD024A20N BETWEEN RECEPTACLE 300J33 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.

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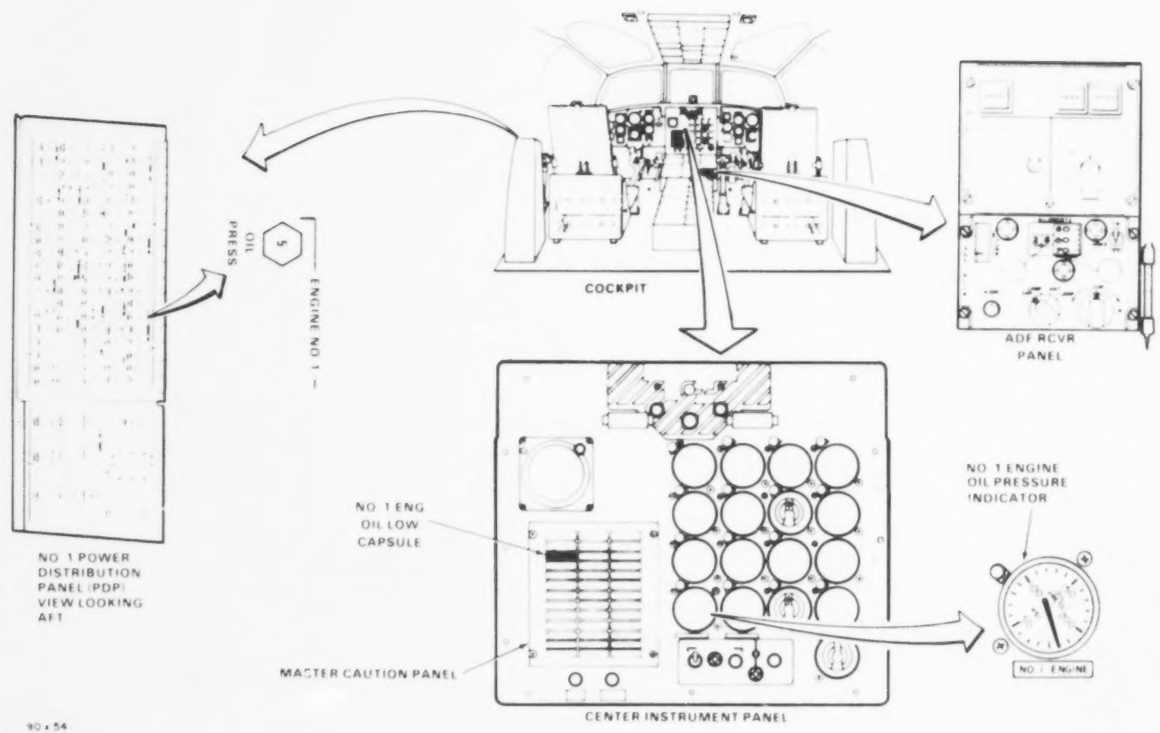
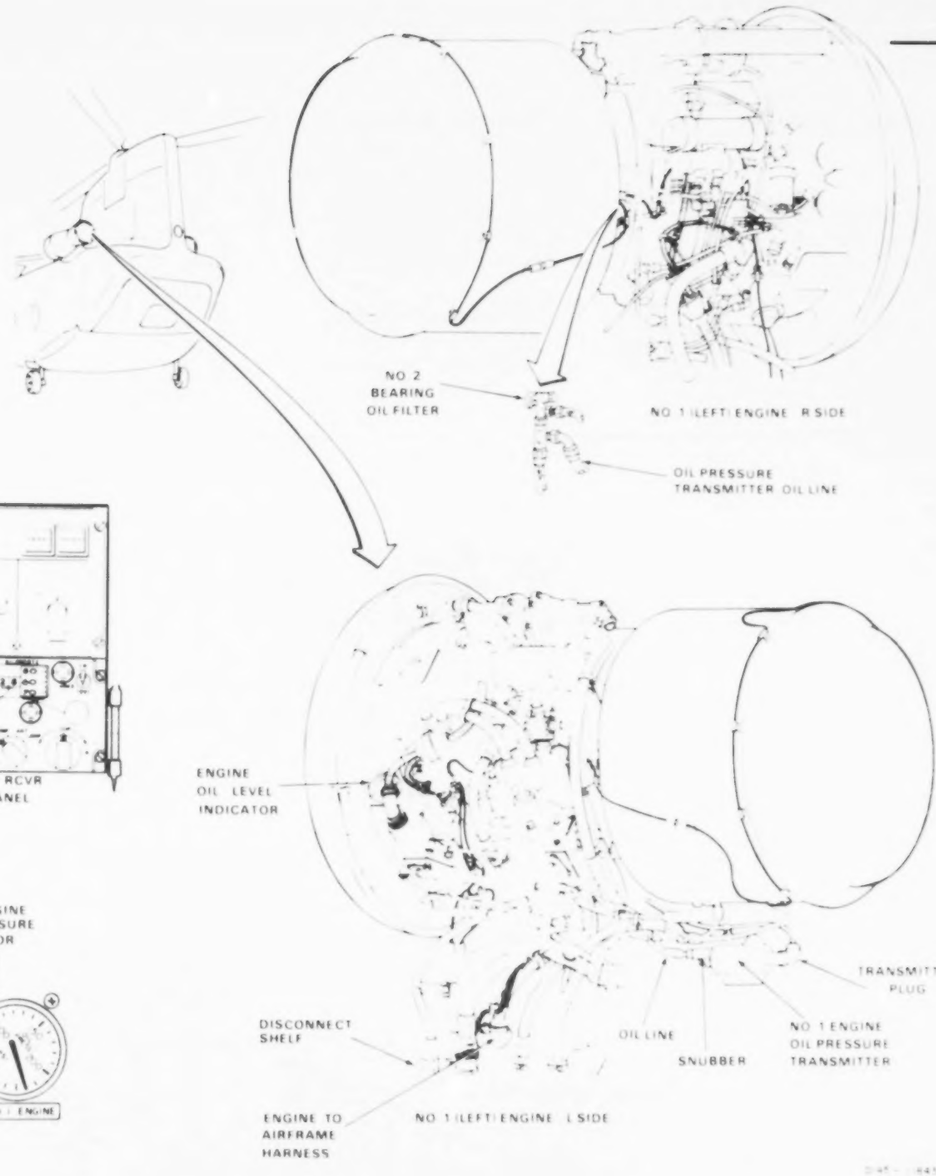
8-3.6 NO. 1 ENGINE OIL PRESS INDICATOR DOES NOT INDICATE 20 PSI MINIMUM OR POINTER FLUCTUATES MORE THAN 5 PSI (Continued)





END OF TASK

8-3.7 NO. 2 ENGINE OIL PRESS INDICATOR DOES NOT INDICATE 20 PSI MINIMUM OR POINTER FLUCTUATES MORE THAN 5 PSI

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

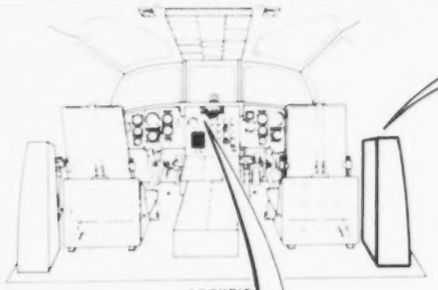
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter
Synchro Test Set,
NSN 4920-00-556-8108
Direct Reading Pressure Gage, 0 to 200 Psi

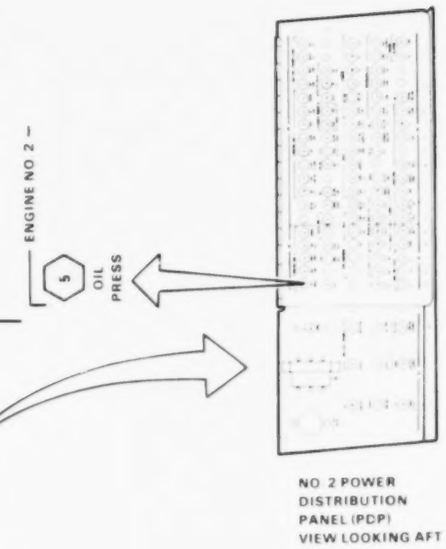
Materials:
None

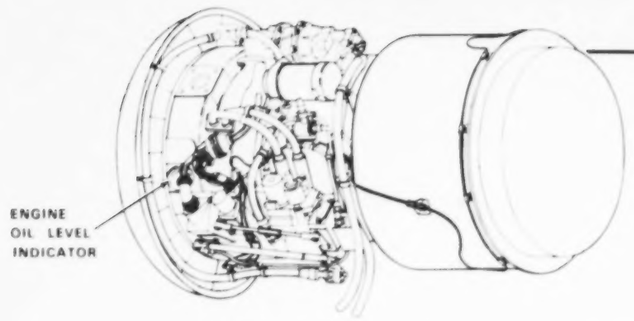
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

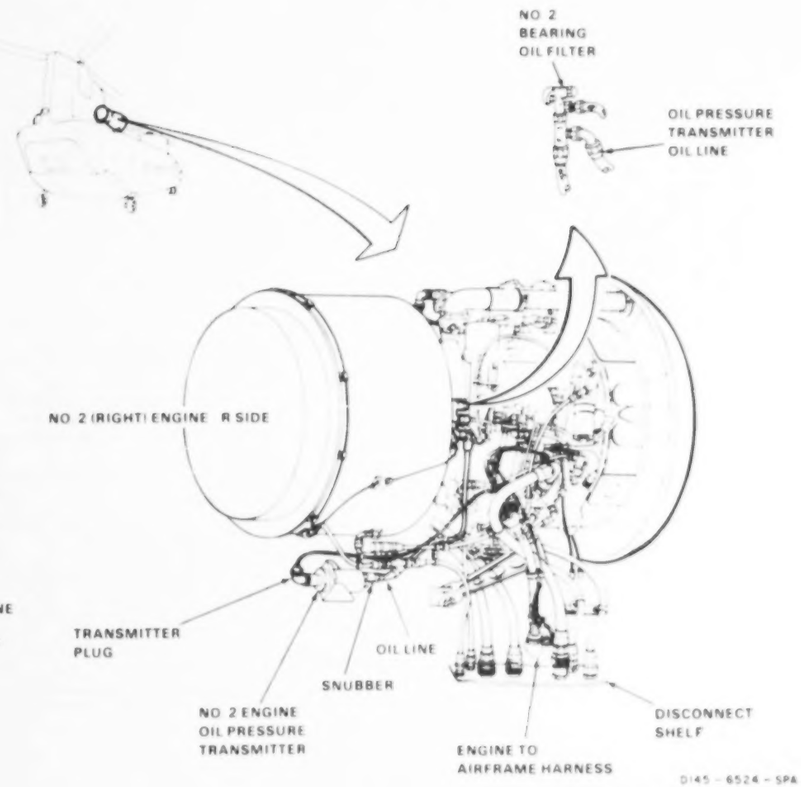
References:
TM 55-1520-240-23
TM 55-2840-234-24/2

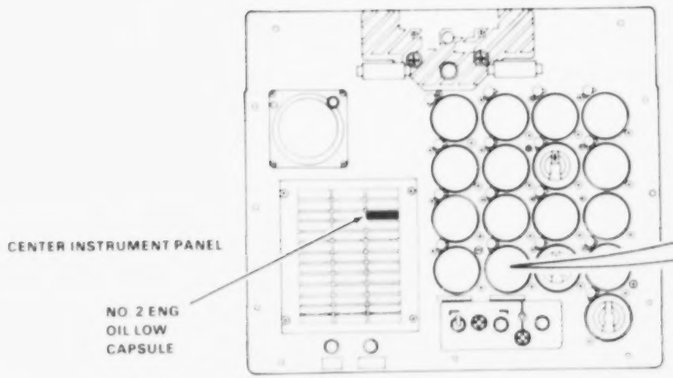
Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off











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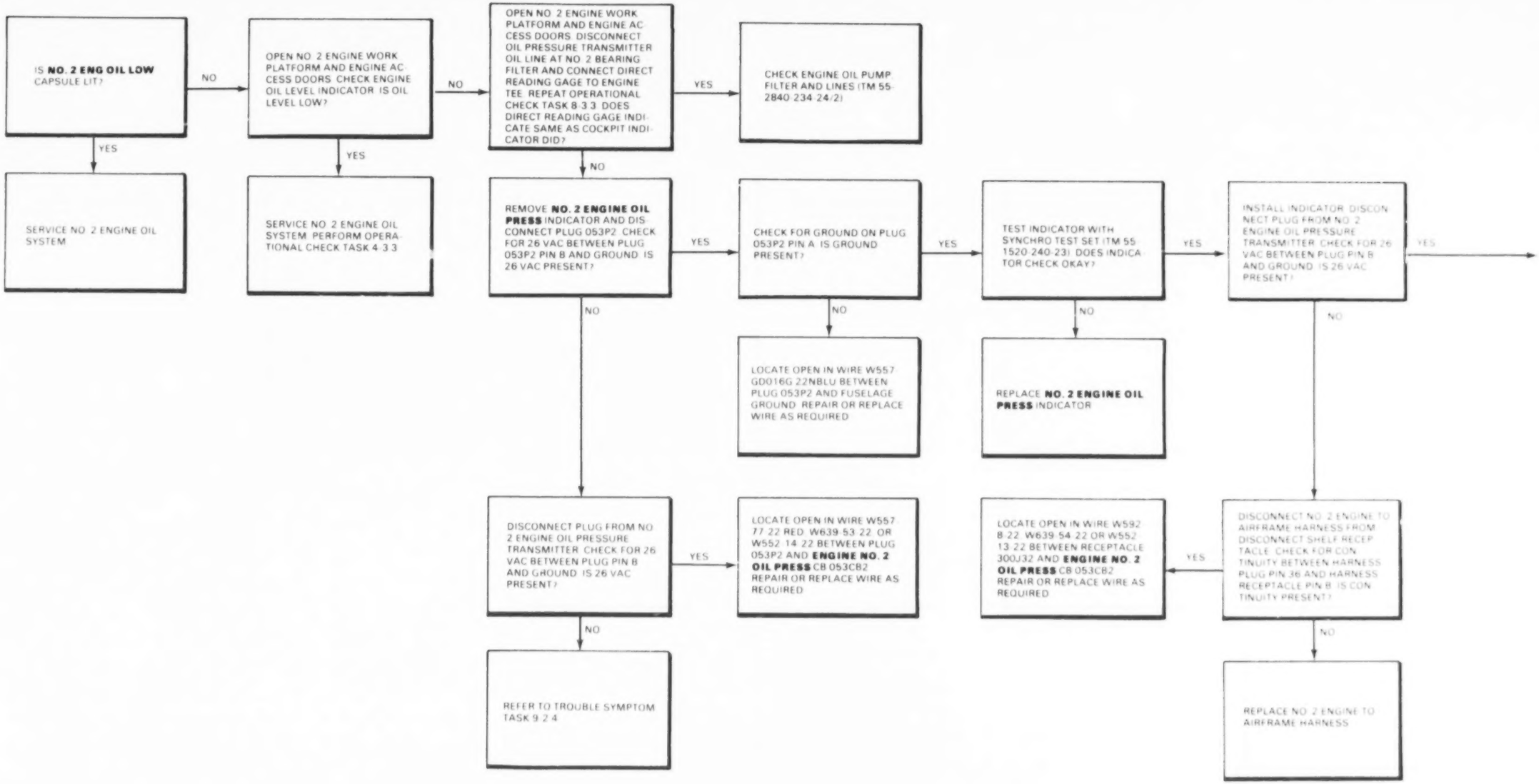
8-3.7 NO. 2 ENGINE OIL PRESS INDICATOR DOES NOT INDICATE 20 PSI MINIMUM OR POINTER FLUCTUATES MORE THAN 5 PSI (Continued)


IS **NO. 2 ENG OIL LOW** CAPSULE LIT?
NO
YES
SERVICE NO. 2 ENGINE OIL SYSTEM
OPEN NO. 2 ENGINE WORK PLATFORM AND ENGINE ACCESS DOORS. CHECK ENGINE OIL LEVEL INDICATOR. IS OIL LEVEL LOW?
NO
YES
SERVICE NO. 2 ENGINE OIL SYSTEM. PERFORM OPERATIONAL CHECK TASK 4-3.3
OPEN NO. 2 ENGINE WORK PLATFORM AND ENGINE ACCESS DOORS. DISCONNECT OIL PRESSURE TRANSMITTER OIL LINE AT NO. 2 BEARING FILTER AND CONNECT DIRECT READING GAGE TO ENGINE TEE. REPEAT OPERATIONAL CHECK TASK 8-3.3. DOES DIRECT READING GAGE INDICATE SAME AS COCKPIT INDICATOR DID?
YES
CHECK ENGINE OIL PUMP FILTER AND LINES (TM 55-2840-234-24/2)
NO
REMOVE **NO. 2 ENGINE OIL PRESS** INDICATOR AND DISCONNECT PLUG 053P2. CHECK FOR 26 VAC BETWEEN PLUG 053P2 PIN B AND GROUND. IS 26 VAC PRESENT?
YES
CHECK FOR GROUND ON PLUG 053P2 PIN A. IS GROUND PRESENT?
YES
TEST INDICATOR WITH SYNCHRO TEST SET (TM 55-1520-240-23). DOES INDICATOR CHECK OKAY?
YES
INSTALL INDICATOR. DISCONNECT PLUG FROM NO. 2 ENGINE OIL PRESSURE TRANSMITTER. CHECK FOR 26 VAC BETWEEN PLUG PIN B AND GROUND. IS 26 VAC PRESENT?
YES
NO
DISCONNECT NO. 2 ENGINE TO AIRFRAME HARNESS FROM DISCONNECT SHELF RECEPTACLE. CHECK FOR CONTINUITY BETWEEN HARNESS PLUG PIN 36 AND HARNESS RECEPTACLE PIN B. IS CONTINUITY PRESENT?
NO
REPLACE NO. 2 ENGINE TO AIRFRAME HARNESS
YES
LOCATE OPEN IN WIRE W592 8-22, W639-54-22 OR W552-13-22 BETWEEN RECEPTACLE 300J32 AND **ENGINE NO. 2 OIL PRESS** CB 053CB2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE **NO. 2 ENGINE OIL PRESS** INDICATOR
NO
LOCATE OPEN IN WIRE W557 GD016G 22NBLU BETWEEN PLUG 053P2 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
DISCONNECT PLUG FROM NO. 2 ENGINE OIL PRESSURE TRANSMITTER. CHECK FOR 26 VAC BETWEEN PLUG PIN B AND GROUND. IS 26 VAC PRESENT?
YES
LOCATE OPEN IN WIRE W557 77-22 RED, W639-53-22 OR W552-14-22 BETWEEN PLUG 053P2 AND **ENGINE NO. 2 OIL PRESS** CB 053CB2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REFER TO TROUBLE SYMPTOM TASK 9-2.4

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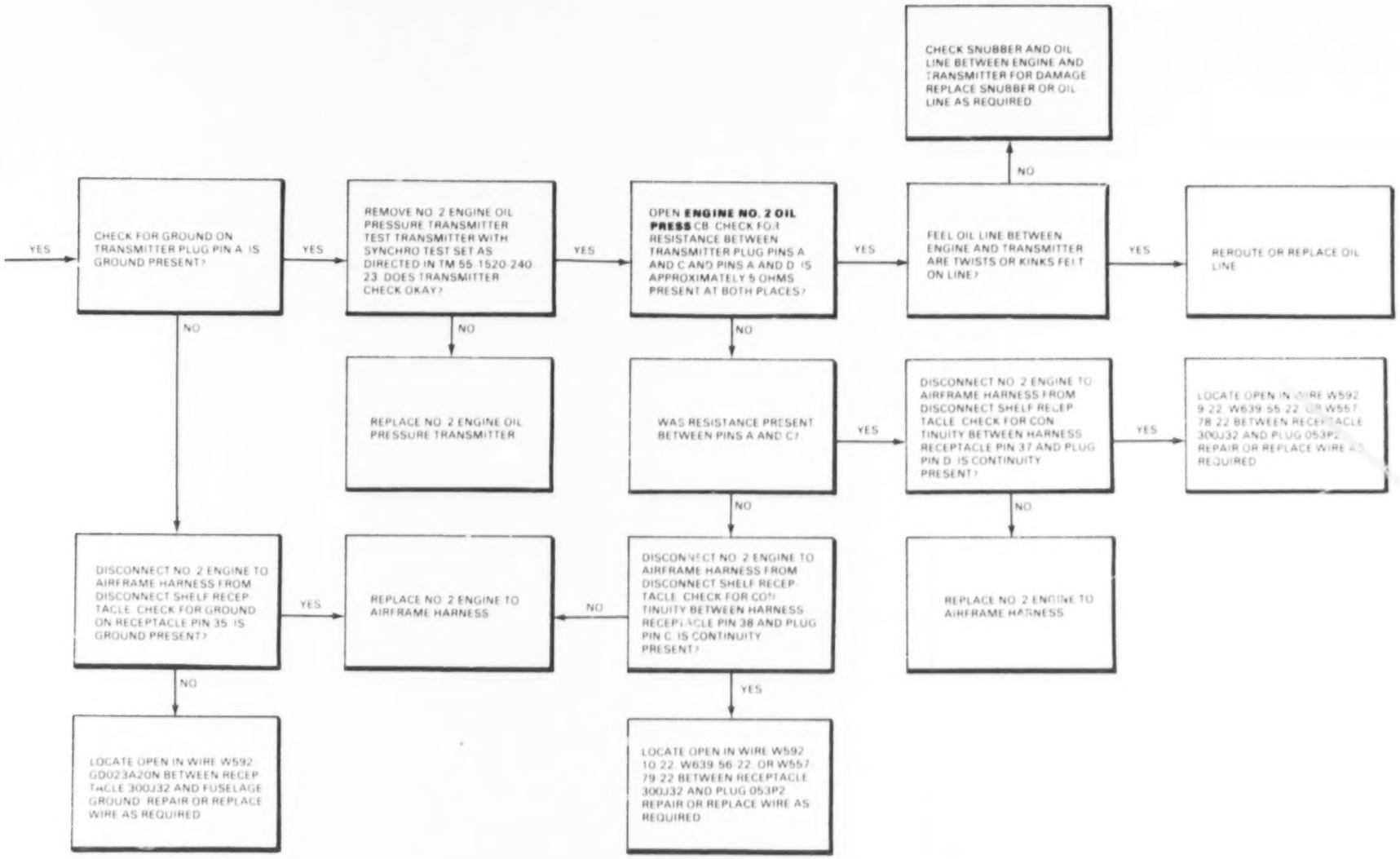
8-3.7 NO. 2 ENGINE OIL PRESS INDICATOR DOES NOT INDICATE 20 PSI MINIMUM OR POINTER FLUCTUATES MORE THAN 5 PSI (Continued)


CHECK SNUBBER AND OIL LINE BETWEEN ENGINE AND TRANSMITTER FOR DAMAGE REPLACE SNUBBER OR OIL LINE AS REQUIRED
NO
YES
CHECK FOR GROUND ON TRANSMITTER PLUG PIN A IS GROUND PRESENT?
YES
REMOVE NO. 2 ENGINE OIL PRESSURE TRANSMITTER TEST TRANSMITTER WITH SYNCHRO TEST SET AS DIRECTED IN TM 55-1520-240-23. DOES TRANSMITTER CHECK OKAY?
YES
OPEN ENGINE NO. 2 OIL PRESS CB. CHECK FOR RESISTANCE BETWEEN TRANSMITTER PLUG PINS A AND C AND PINS A AND D. IS APPROXIMATELY 5 OHMS PRESENT AT BOTH PLACES?
YES
FEEL OIL LINE BETWEEN ENGINE AND TRANSMITTER ARE TWISTS OR KINKS FELT ON LINE?
YES
REROUTE OR REPLACE OIL LINE
NO
NO
NO
REPLACE NO. 2 ENGINE OIL PRESSURE TRANSMITTER
WAS RESISTANCE PRESENT BETWEEN PINS A AND C?
YES
DISCONNECT NO. 2 ENGINE TO AIRFRAME HARNESS FROM DISCONNECT SHELF RECEPTACLE. CHECK FOR CONTINUITY BETWEEN HARNESS RECEPTACLE PIN 37 AND PLUG PIN D. IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRE W592-9-22, W639-55-22, OR W557-78-22 BETWEEN RECEPTACLE 300J32 AND PLUG 053P2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
NO
DISCONNECT NO. 2 ENGINE TO AIRFRAME HARNESS FROM DISCONNECT SHELF RECEPTACLE. CHECK FOR GROUND ON RECEPTACLE PIN 35. IS GROUND PRESENT?
YES
REPLACE NO. 2 ENGINE TO AIRFRAME HARNESS
NO
DISCONNECT NO. 2 ENGINE TO AIRFRAME HARNESS FROM DISCONNECT SHELF RECEPTACLE. CHECK FOR CONTINUITY BETWEEN HARNESS RECEPTACLE PIN 38 AND PLUG PIN C. IS CONTINUITY PRESENT?
NO
REPLACE NO. 2 ENGINE TO AIRFRAME HARNESS
NO
YES
LOCATE OPEN IN WIRE W592-GD023A20N BETWEEN RECEPTACLE 300J32 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE OPEN IN WIRE W592-10-22, W639-56-22, OR W557-79-22 BETWEEN RECEPTACLE 300J32 AND PLUG 053P2. REPAIR OR REPLACE WIRE AS REQUIRED

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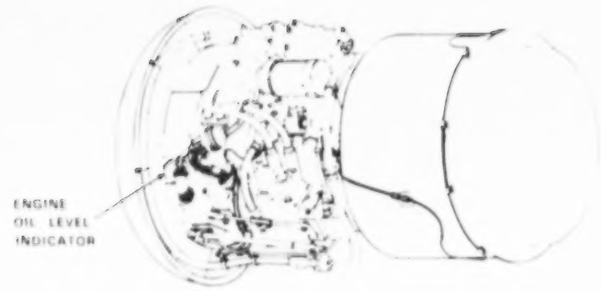
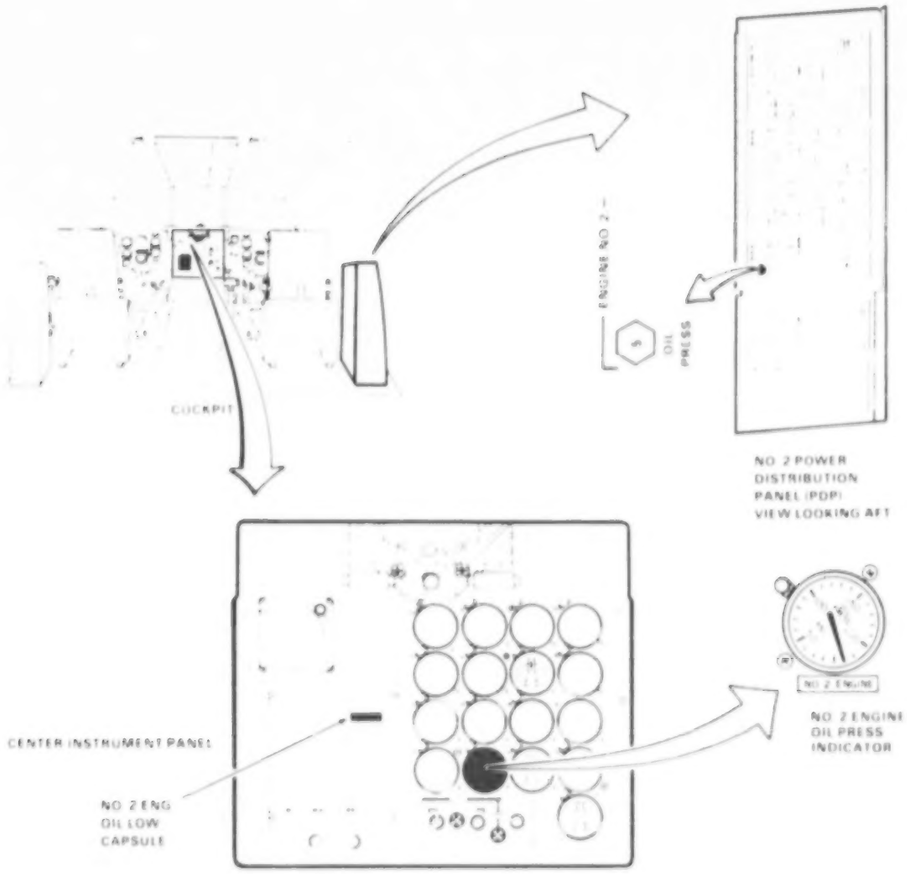
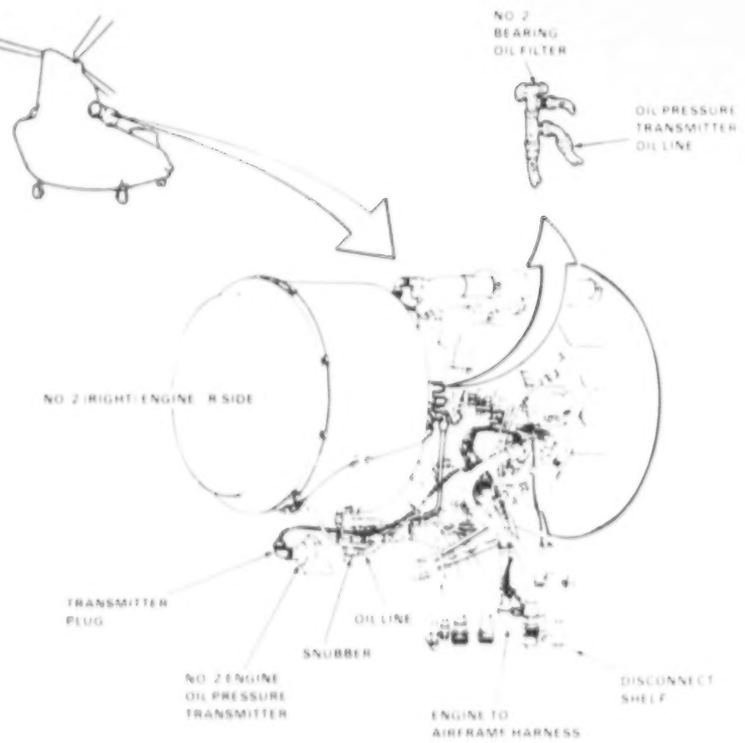
8-3.7 NO. 2 ENGINE OIL PRESS INDICATOR DOES NOT INDICATE 20 PSI MINIMUM OR POINTER FLUCTUATES MORE THAN 5 PSI (Continued)



NO 2 (RIGHT) ENGINE L SIDE


COCKPIT
ENGINE NO 2 OIL PRESS
NO 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
CENTER INSTRUMENT PANEL
NO 2 ENG OIL LOW CAPSULE
NO 2 ENGINE OIL PRESS INDICATOR

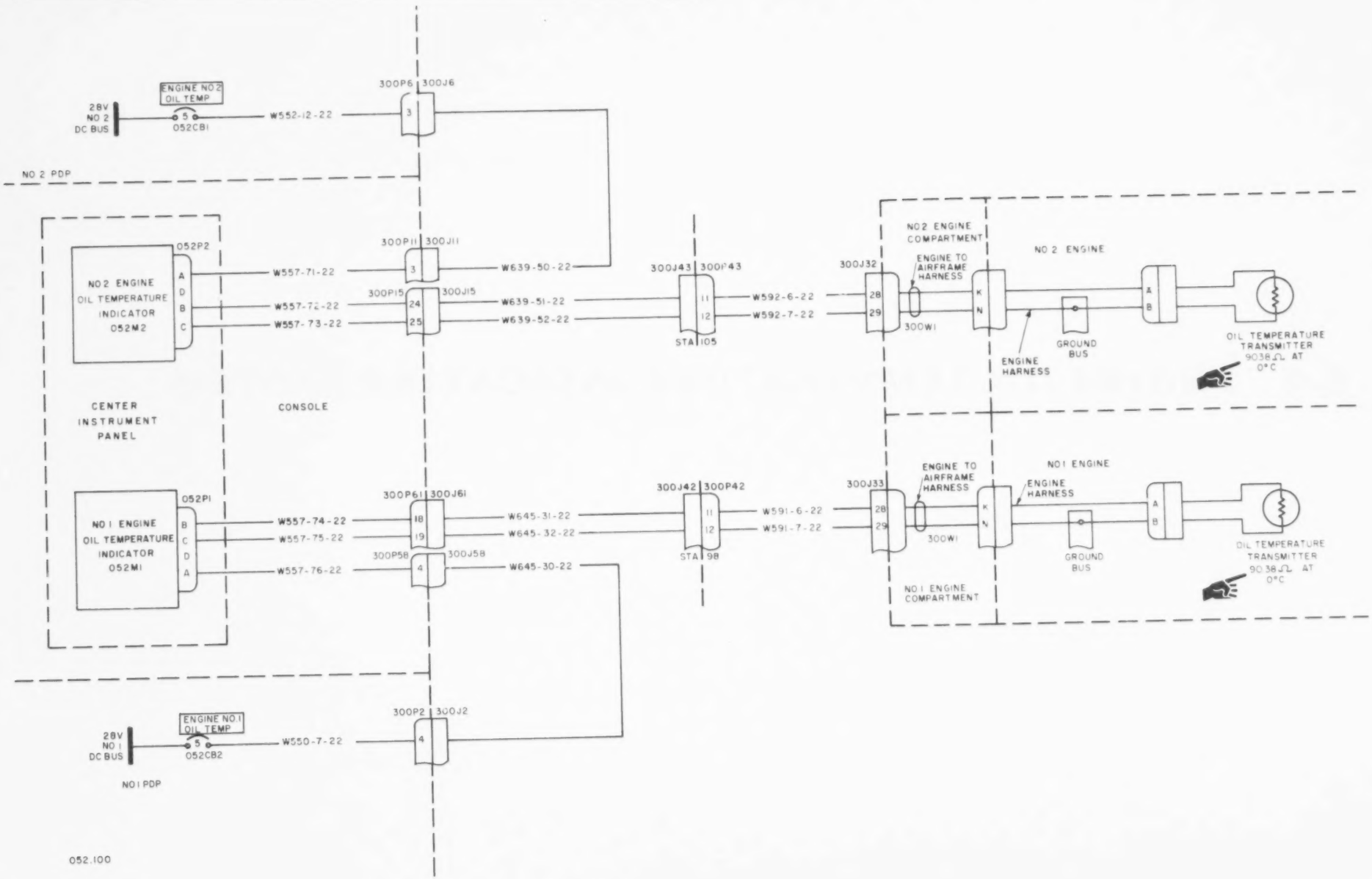


END OF TASK

8-4 ENGINE OIL TEMPERATURE INDICATING SYSTEM

8-4 ENGINE OIL TEMPERATURE INDICATING SYSTEM

8-4.1 ENGINE OIL TEMPERATURE INDICATING SYSTEM WIRING DIAGRAM



8-4.2 ENGINE OIL TEMPERATURE INDICATING SYSTEM VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Aircraft Mechanic's Tool Kit,
NSN 5180-00-323-4692

Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer

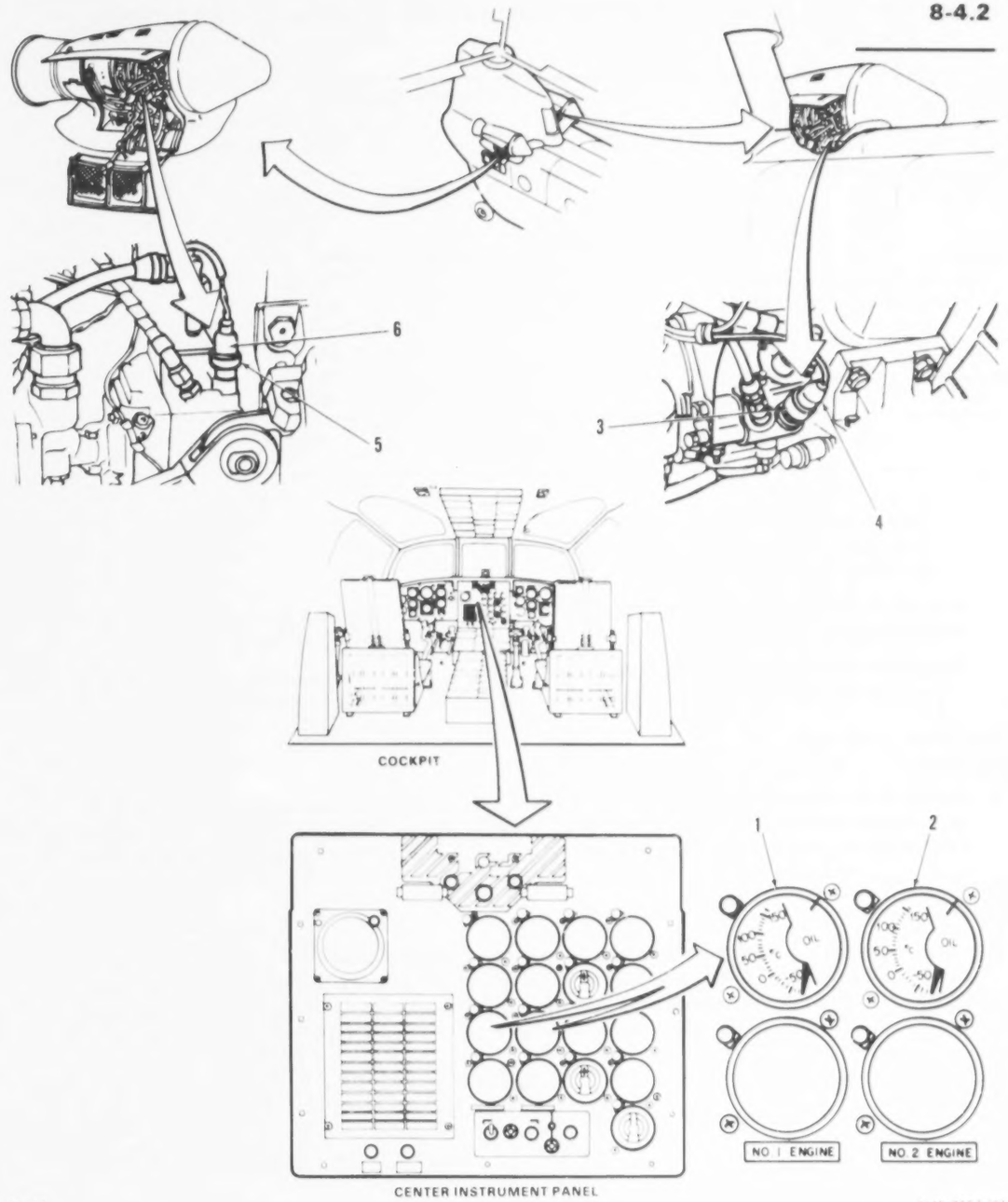
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Upper and Lower Engine Access Doors Open
Engine Work Platform Open

TASK	RESULT
1. **Check NO. 1 ENGINE OIL temperature indicator (1).**	If indicator (1) is damaged, replace it
2. **Check NO. 2 ENGINE OIL temperature indicator (2).**	If indicator (2) is damaged, replace it
CHECK NO. 1 ENGINE INSTALLATION	
3. **Check No. 1 engine oil temperature transmitter (3).**	If transmitter (3) is loose or damaged, tighten or replace it as required. If connector (4) or wiring to connector is damaged, repair or replace it as required.
CHECK NO. 2 ENGINE INSTALLATION	
4. **Check No. 2 engine oil temperature transmitter (5).**	If transmitter (5) is loose or damaged, tighten or replace it as required. If connector (6) or wiring to connector is damaged, repair or replace it as required.

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23:
Close upper and lower engine access doors.
Close engine work platform.



END OF TASK

8-4.3 ENGINE OIL TEMPERATURE INDICATING SYSTEM OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Aircraft Mechanic's Tool Kit,
NSN 5180-00-323-4692

Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer
67U20 Medium Helicopter Repairer

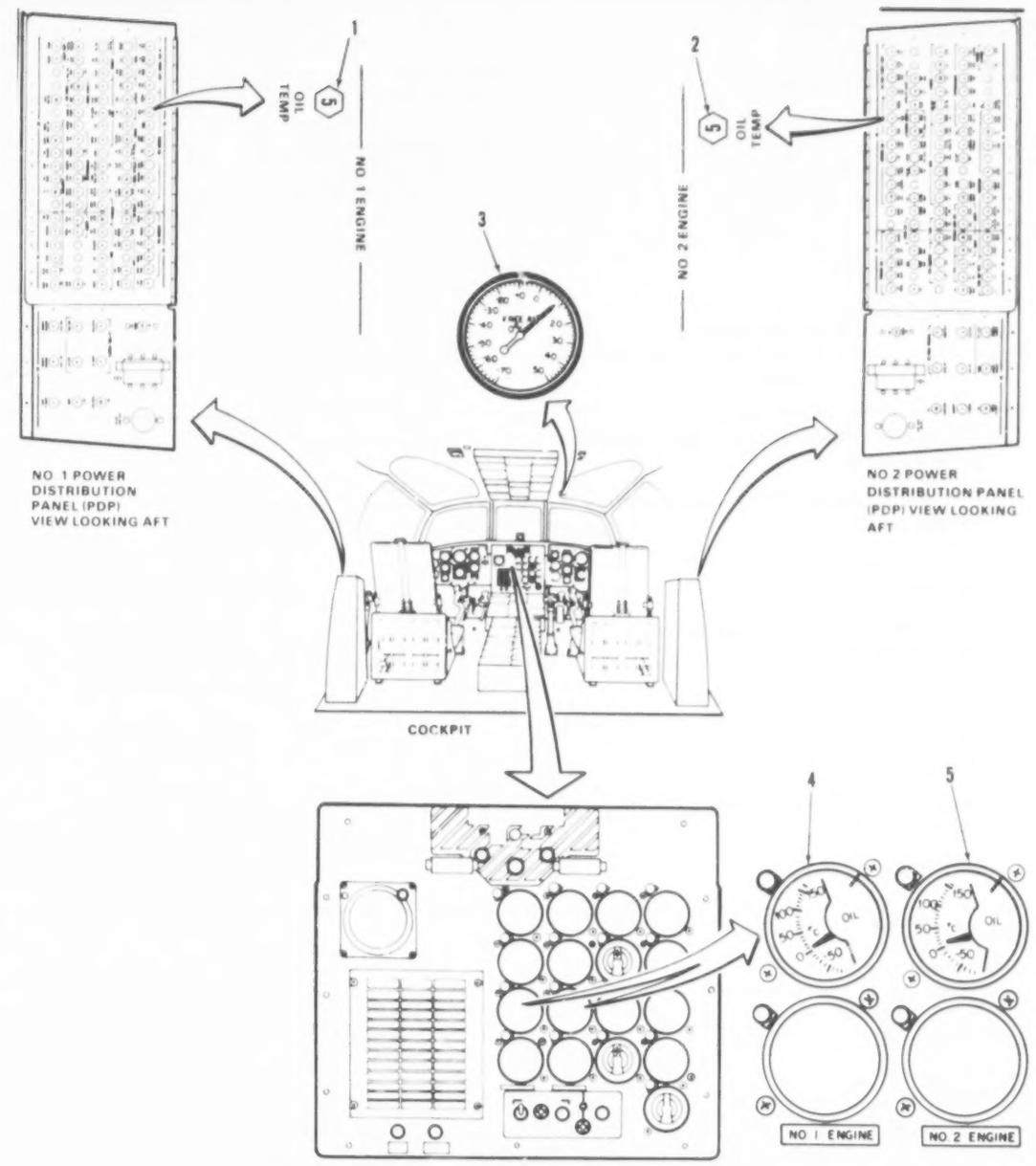
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off
Engine Oil Temperature Indicating System Visual Check Performed (Task 8-4.2)

TASK	RESULT
NOTE Check of engine oil temperature indicating system should be performed only on cool engines.	
1 **Check** that **ENGINE NO. 1 OIL TEMP circuit breaker (1)** is closed.	If OIL TEMP circuit breaker (1) is open, close it. If it opens again, go to task 8-4.4.
2 **Check** that **ENGINE NO. 2 OIL TEMP circuit breaker (2)** is closed.	If OIL TEMP circuit breaker (2) is open, close it. If it opens again, go to task 8-4.4.
CHECK NO. 1 ENGINE SYSTEM	
3 **Check temperature indications on free air temperature indicator (3) and NO. 1 ENGINE OIL temperature indicator (4).**	Temperature indications shall be within 10°C. If not, go to task 8-4.5. If a fluctuating pointer trouble symptom can not be verified, go to task 8-4.5.
CHECK NO. 2 ENGINE SYSTEM	
4 **Check temperature indications on free air temperature indicator (3) and NO. 2 ENGINE OIL temperature indicator (5).**	Temperature indications shall be within 10°C. If not, go to task 8-4.6. If a fluctuating pointer trouble symptom can not be verified, go to task 8-4.6.

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off



END OF TASK

45x54

8-4.4 ENGINE OIL TEMP CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

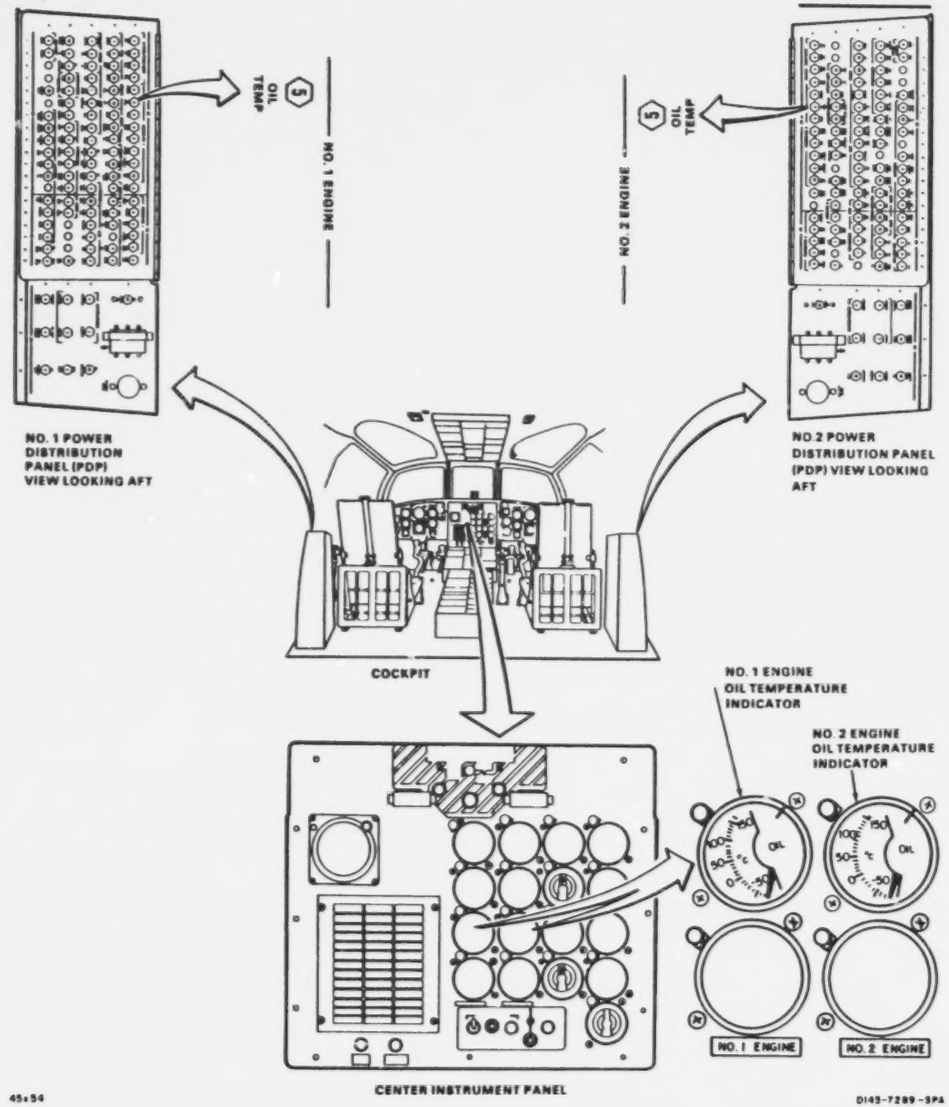
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off


NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
NO. 1 ENGINE
5 OIL TEMP
NO. 2 ENGINE
5 OIL TEMP
NO. 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
COCKPIT
NO. 1 ENGINE OIL TEMPERATURE INDICATOR
NO. 2 ENGINE OIL TEMPERATURE INDICATOR
NO. 1 ENGINE
NO. 2 ENGINE
CENTER INSTRUMENT PANEL
D143-7289-3PA

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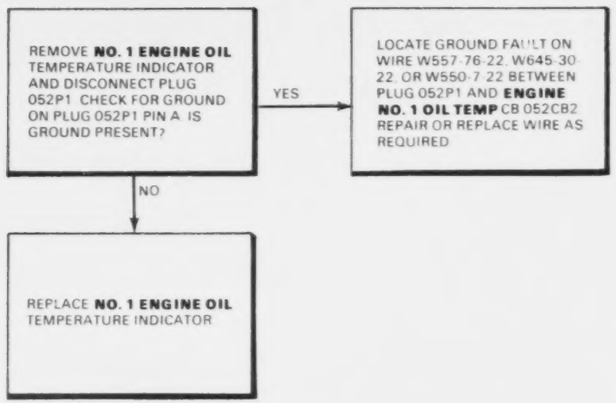
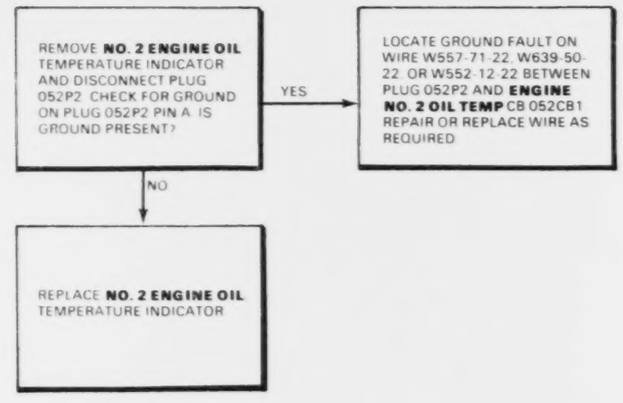
8-4.4 ENGINE OIL TEMP CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)

ENGINE NO. 1 OIL TEMP CIRCUIT BREAKER DOES NOT STAY CLOSED


REMOVE NO. 1 ENGINE OIL TEMPERATURE INDICATOR AND DISCONNECT PLUG 052P1. CHECK FOR GROUND ON PLUG 052P1 PIN A. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W557-76-22, W645-30-22, OR W550-7-22 BETWEEN PLUG 052P1 AND ENGINE NO. 1 OIL TEMP CB 052CB2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE NO. 1 ENGINE OIL TEMPERATURE INDICATOR

ENGINE NO. 2 OIL TEMP CIRCUIT BREAKER DOES NOT STAY CLOSED


REMOVE NO. 2 ENGINE OIL TEMPERATURE INDICATOR AND DISCONNECT PLUG 052P2. CHECK FOR GROUND ON PLUG 052P2 PIN A. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W557-71-22, W639-50-22, OR W552-12-22 BETWEEN PLUG 052P2 AND ENGINE NO. 2 OIL TEMP CB 052CB1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE NO. 2 ENGINE OIL TEMPERATURE INDICATOR

END OF TASK

8-4.5 NO. 1 ENGINE OIL TEMPERATURE INDICATOR INDICATION IS NOT WITHIN 10° C OF FAT INDICATOR

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

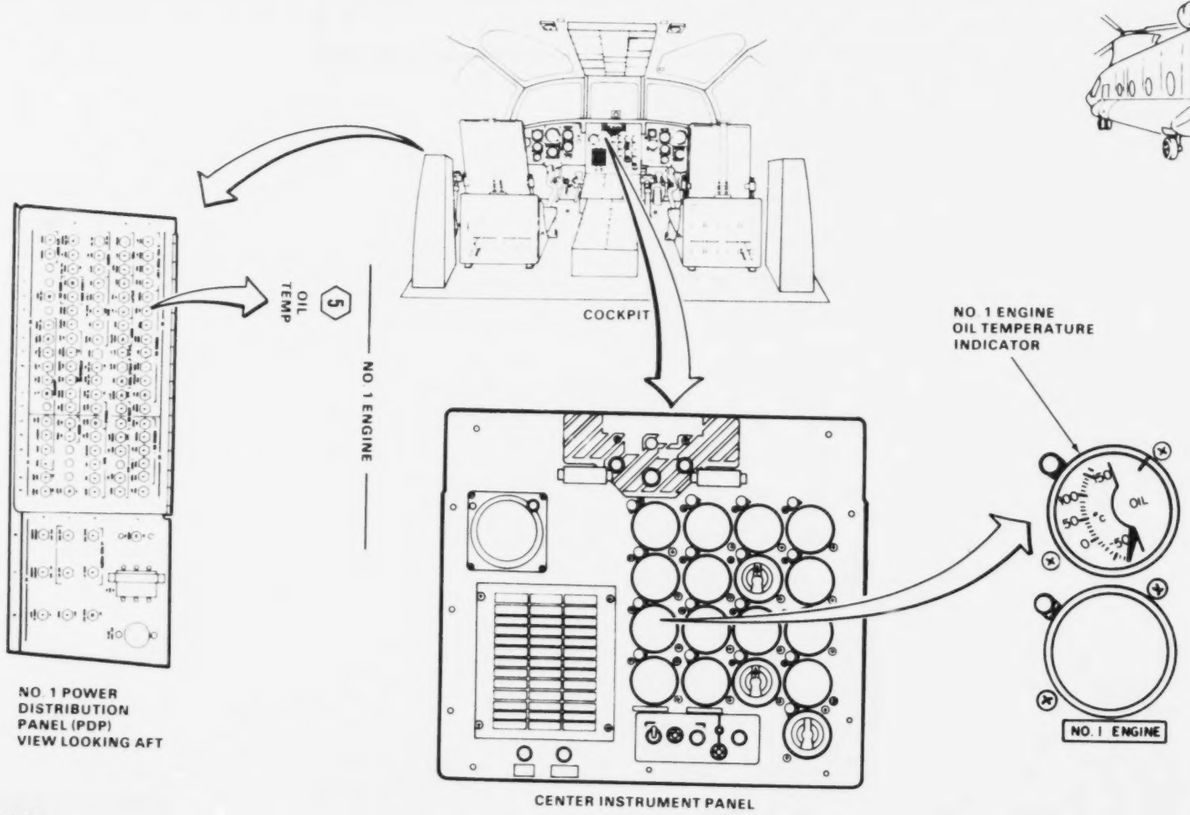
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Aircraft Mechanic's Tool Kit,
NSN 5180-00-323-4692
Multimeter

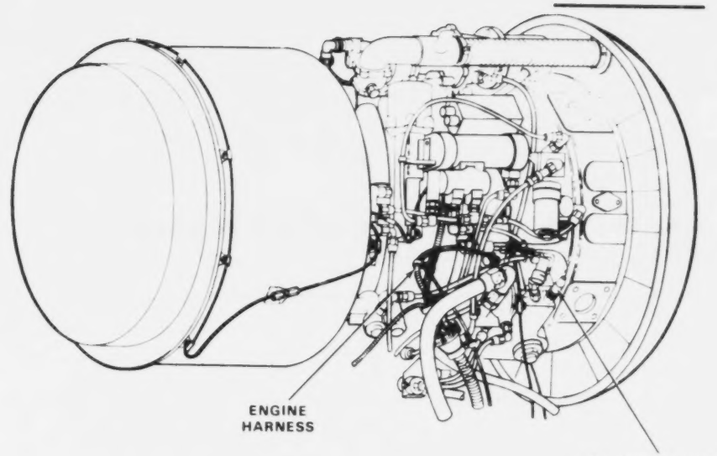
Materials:
None

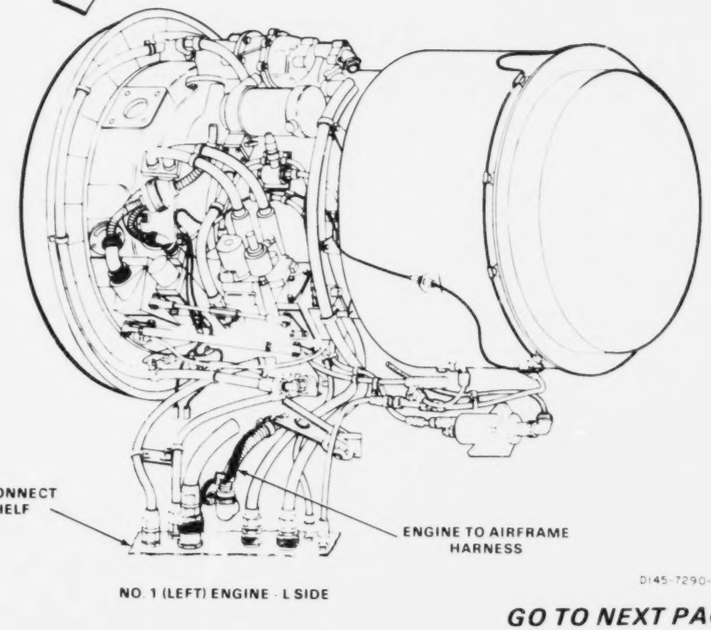
Personnel Required:
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off







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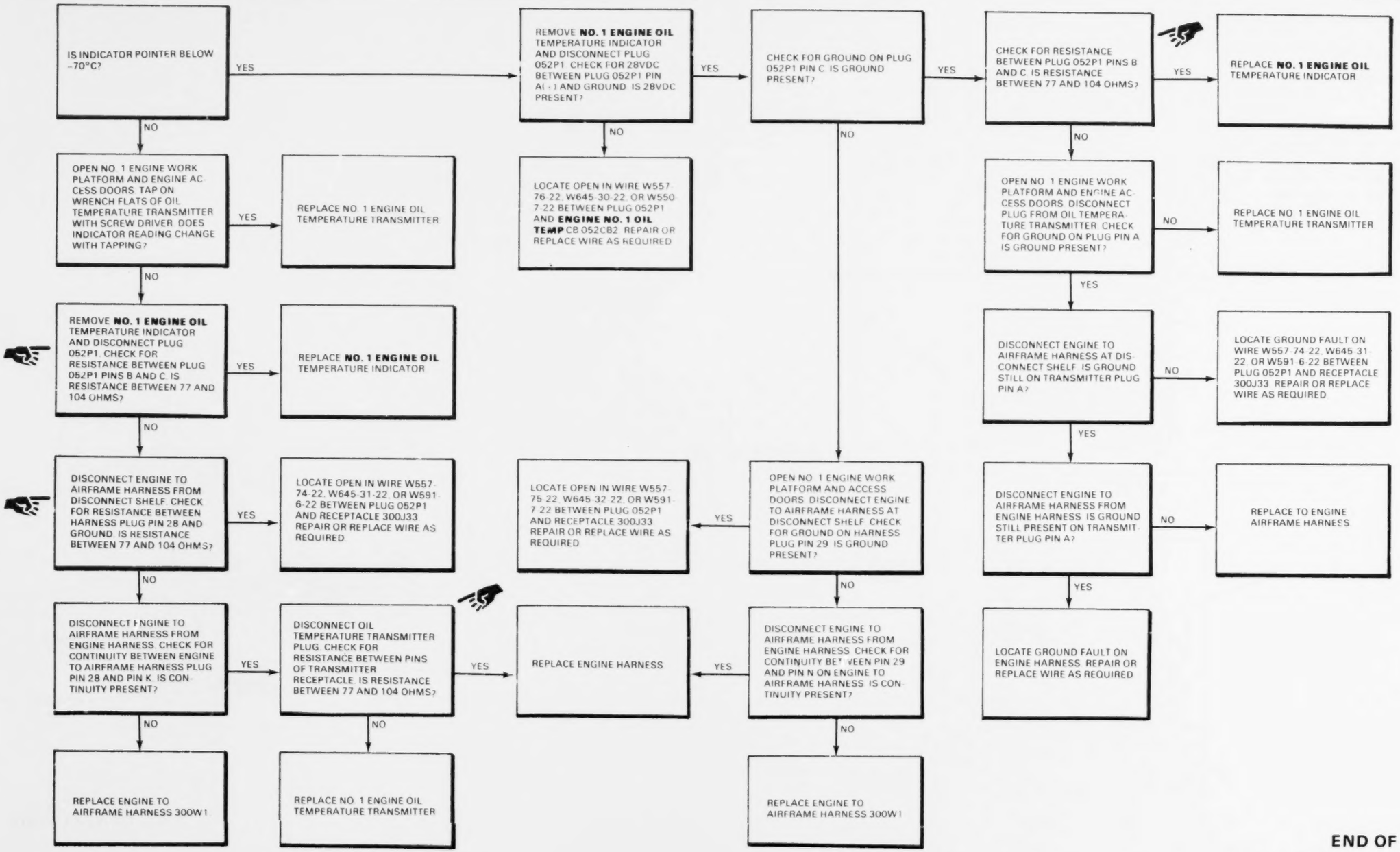
8-4.5 NO. 1 ENGINE OIL TEMPERATURE INDICATOR INDICATION IS NOT WITHIN 10° C OF FAT INDICATOR (Continued)


IS INDICATOR POINTER BELOW -70°C?
YES
NO
REMOVE NO. 1 ENGINE OIL TEMPERATURE INDICATOR AND DISCONNECT PLUG 052P1. CHECK FOR 28VDC BETWEEN PLUG 052P1 PIN A(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-76-22, W645-30-22, OR W550-7-22 BETWEEN PLUG 052P1 AND ENGINE NO. 1 OIL TEMP CB 052CB2. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR GROUND ON PLUG 052P1 PIN C. IS GROUND PRESENT?
YES
NO
CHECK FOR RESISTANCE BETWEEN PLUG 052P1 PINS B AND C. IS RESISTANCE BETWEEN 77 AND 104 OHMS?
YES
REPLACE NO. 1 ENGINE OIL TEMPERATURE INDICATOR
NO
OPEN NO. 1 ENGINE WORK PLATFORM AND ENGINE ACCESS DOORS. DISCONNECT PLUG FROM OIL TEMPERATURE TRANSMITTER. CHECK FOR GROUND ON PLUG PIN A. IS GROUND PRESENT?
NO
REPLACE NO. 1 ENGINE OIL TEMPERATURE TRANSMITTER
YES
DISCONNECT ENGINE TO AIRFRAME HARNESS AT DISCONNECT SHELF. IS GROUND STILL ON TRANSMITTER PLUG PIN A?
NO
LOCATE GROUND FAULT ON WIRE W557-74-22, W645-31-22, OR W591-6-22 BETWEEN PLUG 052P1 AND RECEPTACLE 300J33. REPAIR OR REPLACE WIRE AS REQUIRED
YES
DISCONNECT ENGINE TO AIRFRAME HARNESS FROM ENGINE HARNESS. IS GROUND STILL PRESENT ON TRANSMITTER PLUG PIN A?
NO
REPLACE TO ENGINE AIRFRAME HARNESS
YES
LOCATE GROUND FAULT ON ENGINE HARNESS. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE NO. 1 ENGINE OIL TEMPERATURE INDICATOR AND DISCONNECT PLUG 052P1. CHECK FOR RESISTANCE BETWEEN PLUG 052P1 PINS B AND C. IS RESISTANCE BETWEEN 77 AND 104 OHMS?
YES
REPLACE NO. 1 ENGINE OIL TEMPERATURE INDICATOR
NO
DISCONNECT ENGINE TO AIRFRAME HARNESS FROM DISCONNECT SHELF. CHECK FOR RESISTANCE BETWEEN HARNESS PLUG PIN 28 AND GROUND. IS RESISTANCE BETWEEN 77 AND 104 OHMS?
YES
LOCATE OPEN IN WIRE W557-74-22, W645-31-22, OR W591-6-22 BETWEEN PLUG 052P1 AND RECEPTACLE 300J33 REPAIR OR REPLACE WIRE AS REQUIRED
NO
DISCONNECT ENGINE TO AIRFRAME HARNESS FROM ENGINE HARNESS. CHECK FOR CONTINUITY BETWEEN ENGINE TO AIRFRAME HARNESS PLUG PIN 28 AND PIN K. IS CONTINUITY PRESENT?
YES
DISCONNECT OIL TEMPERATURE TRANSMITTER PLUG. CHECK FOR RESISTANCE BETWEEN PINS OF TRANSMITTER RECEPTACLE. IS RESISTANCE BETWEEN 77 AND 104 OHMS?
YES
REPLACE ENGINE HARNESS
NO
DISCONNECT ENGINE TO AIRFRAME HARNESS FROM ENGINE HARNESS. CHECK FOR CONTINUITY BETWEEN PIN 29 AND PIN N ON ENGINE TO AIRFRAME HARNESS. IS CONTINUITY PRESENT?
YES
NO
REPLACE ENGINE TO AIRFRAME HARNESS 300W1
NO
REPLACE NO. 1 ENGINE OIL TEMPERATURE TRANSMITTER
NO
REPLACE ENGINE TO AIRFRAME HARNESS 300W1
LOCATE OPEN IN WIRE W557-75-22, W645-32-22, OR W591-7-22 BETWEEN PLUG 052P1 AND RECEPTACLE 300J33 REPAIR OR REPLACE WIRE AS REQUIRED
YES
OPEN NO. 1 ENGINE WORK PLATFORM AND ACCESS DOORS. DISCONNECT ENGINE TO AIRFRAME HARNESS AT DISCONNECT SHELF. CHECK FOR GROUND ON HARNESS PLUG PIN 29. IS GROUND PRESENT?
NO
YES
NO

END OF TASK

8-4.6 NO. 2 ENGINE OIL TEMPERATURE INDICATOR INDICATION IS NOT WITHIN 10°C OF FAT INDICATOR

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

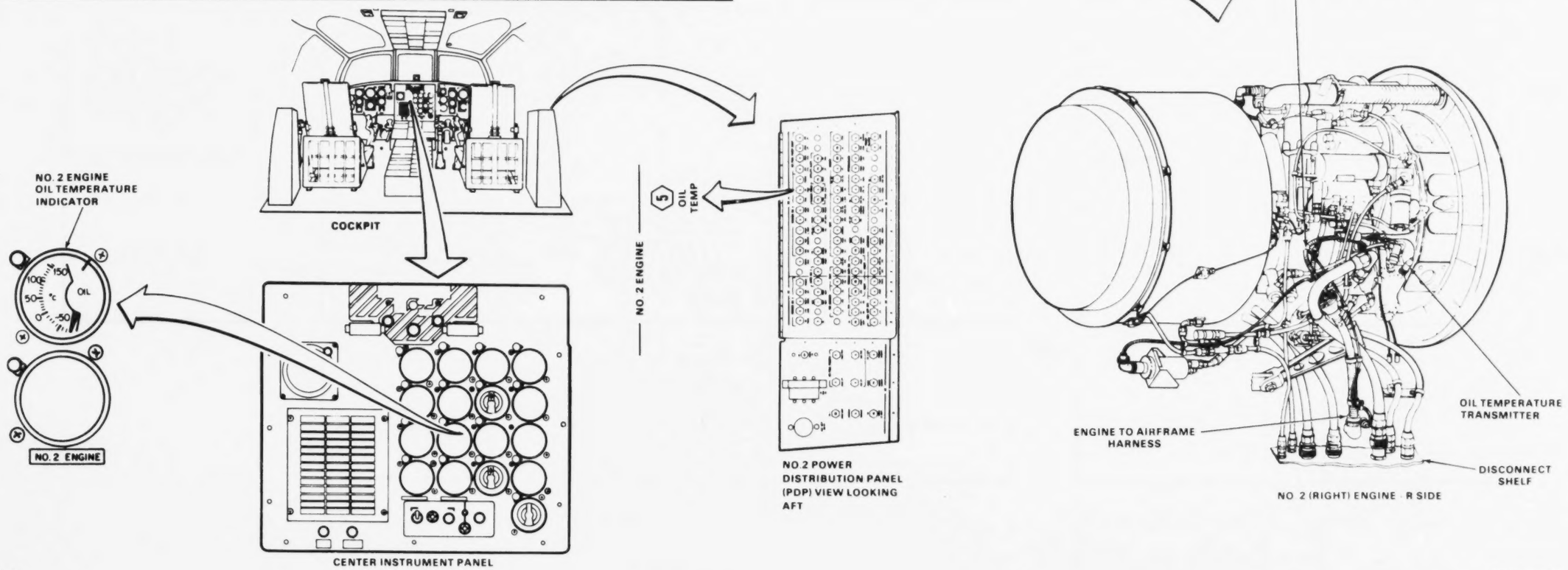
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Aircraft Mechanic's Tool Kit,
NSN 5180-00-323-4692
Multimeter

Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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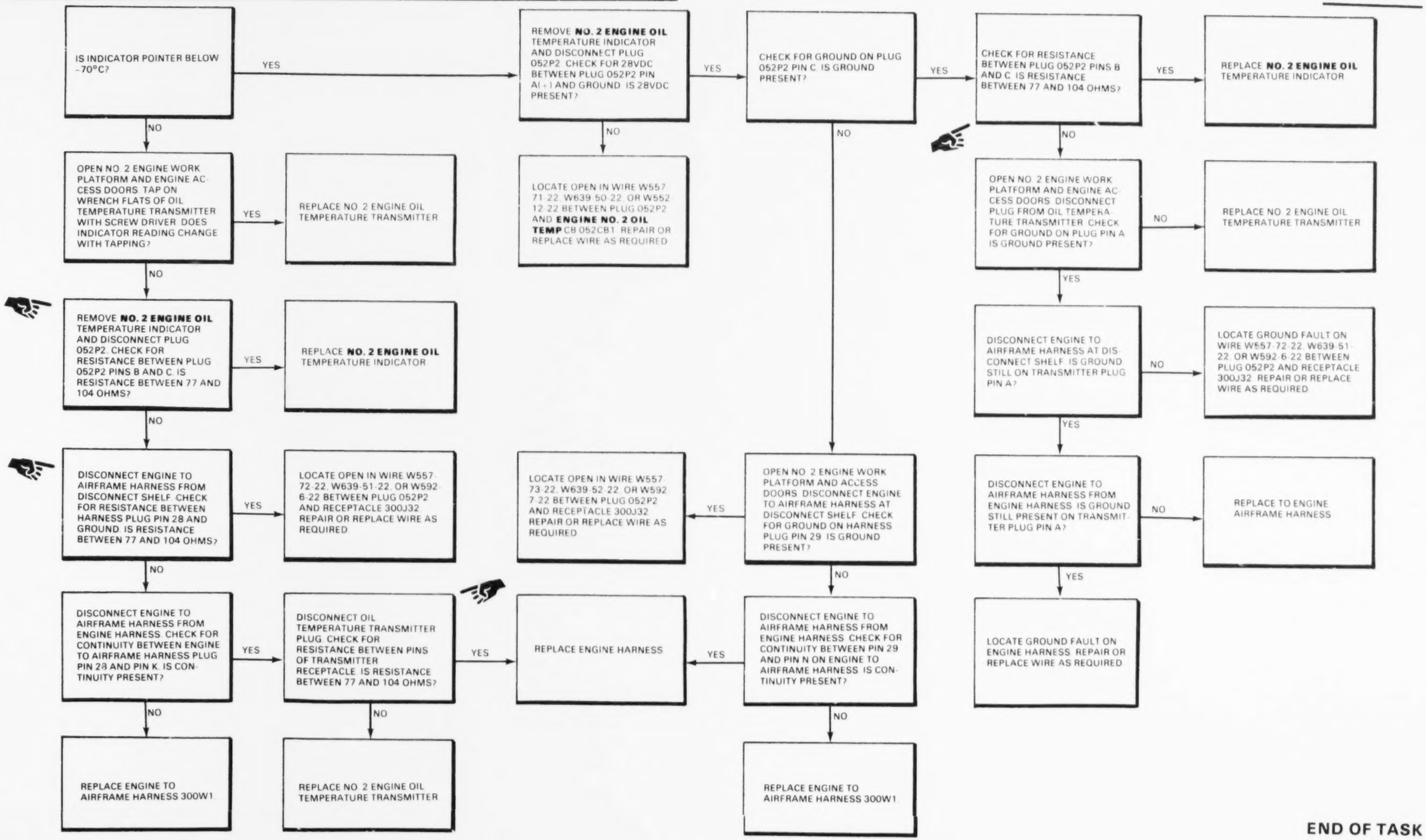
8-4.6 NO. 2 ENGINE OIL TEMPERATURE INDICATOR INDICATION IS NOT WITHIN 10°C OF FAT INDICATOR (Continued)

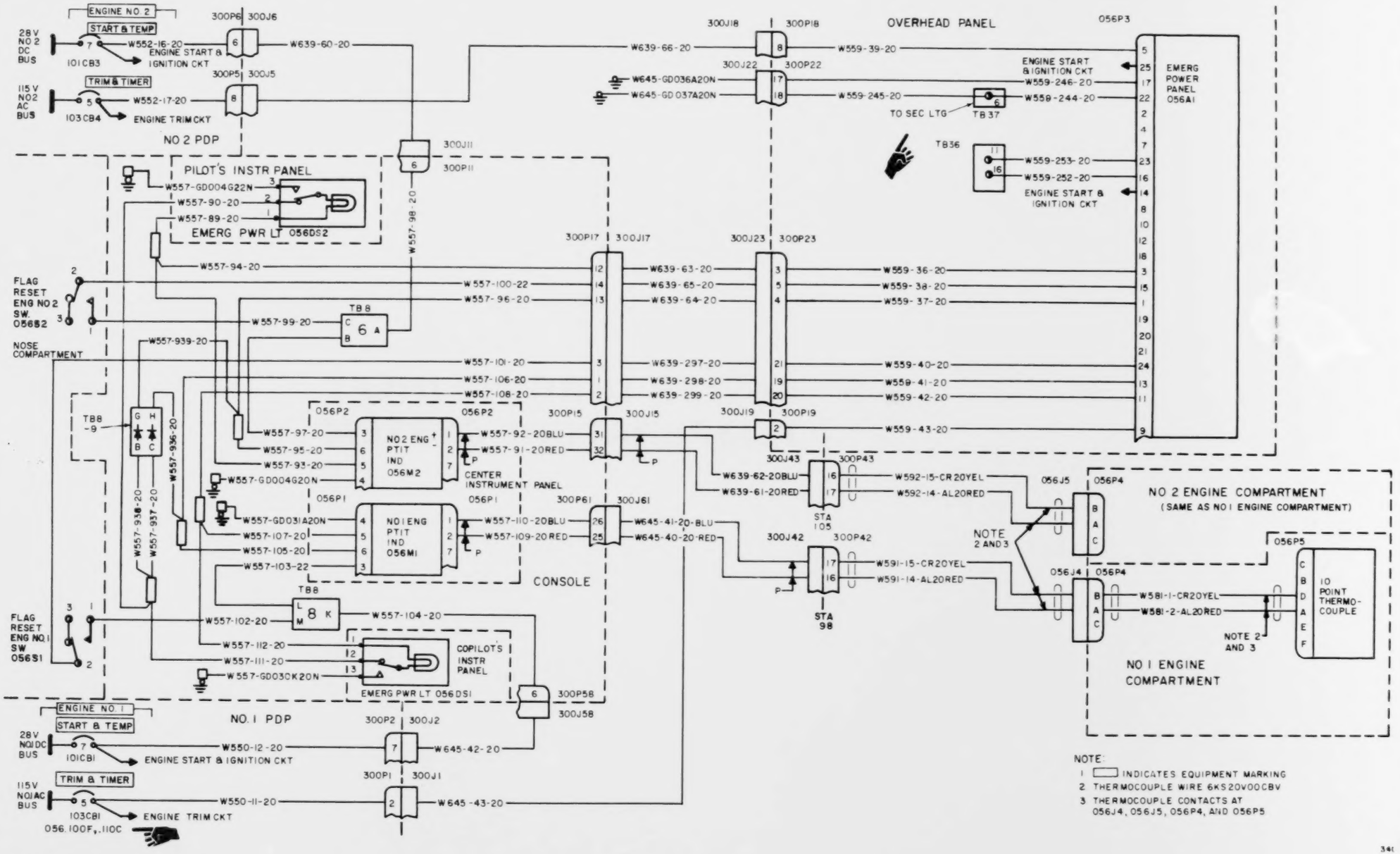

IS INDICATOR POINTER BELOW -70°C?
YES
NO
REMOVE NO. 2 ENGINE OIL TEMPERATURE INDICATOR AND DISCONNECT PLUG 052P2. CHECK FOR 28VDC BETWEEN PLUG 052P2 PIN A(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-71-22, W639-50-22, OR W552-12-22 BETWEEN PLUG 052P2 AND ENGINE NO. 2 OIL TEMP CB 052CB1. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR GROUND ON PLUG 052P2 PIN C. IS GROUND PRESENT?
YES
NO
CHECK FOR RESISTANCE BETWEEN PLUG 052P2 PINS B AND C. IS RESISTANCE BETWEEN 77 AND 104 OHMS?
YES
REPLACE NO. 2 ENGINE OIL TEMPERATURE INDICATOR
NO
OPEN NO. 2 ENGINE WORK PLATFORM AND ENGINE ACCESS DOORS. DISCONNECT PLUG FROM OIL TEMPERATURE TRANSMITTER. CHECK FOR GROUND ON PLUG PIN A. IS GROUND PRESENT?
NO
REPLACE NO. 2 ENGINE OIL TEMPERATURE TRANSMITTER
YES
DISCONNECT ENGINE TO AIRFRAME HARNESS AT DISCONNECT SHELF. IS GROUND STILL ON TRANSMITTER PLUG PIN A?
NO
LOCATE GROUND FAULT ON WIRE W557-72-22, W639-51-22, OR W592-6-22 BETWEEN PLUG 052P2 AND RECEPTACLE 300J32. REPAIR OR REPLACE WIRE AS REQUIRED
YES
DISCONNECT ENGINE TO AIRFRAME HARNESS FROM ENGINE HARNESS. IS GROUND STILL PRESENT ON TRANSMITTER PLUG PIN A?
NO
REPLACE TO ENGINE AIRFRAME HARNESS
YES
LOCATE GROUND FAULT ON ENGINE HARNESS. REPAIR OR REPLACE WIRE AS REQUIRED
OPEN NO. 2 ENGINE WORK PLATFORM AND ENGINE ACCESS DOORS. TAP ON WRENCH FLATS OF OIL TEMPERATURE TRANSMITTER WITH SCREW DRIVER. DOES INDICATOR READING CHANGE WITH TAPPING?
YES
REPLACE NO. 2 ENGINE OIL TEMPERATURE TRANSMITTER
NO
REMOVE NO. 2 ENGINE OIL TEMPERATURE INDICATOR AND DISCONNECT PLUG 052P2. CHECK FOR RESISTANCE BETWEEN PLUG 052P2 PINS B AND C. IS RESISTANCE BETWEEN 77 AND 104 OHMS?
YES
REPLACE NO. 2 ENGINE OIL TEMPERATURE INDICATOR
NO
DISCONNECT ENGINE TO AIRFRAME HARNESS FROM DISCONNECT SHELF. CHECK FOR RESISTANCE BETWEEN HARNESS PLUG PIN 28 AND GROUND. IS RESISTANCE BETWEEN 77 AND 104 OHMS?
YES
LOCATE OPEN IN WIRE W557-72-22, W639-51-22, OR W592-6-22 BETWEEN PLUG 052P2 AND RECEPTACLE 300J32. REPAIR OR REPLACE WIRE AS REQUIRED
NO
DISCONNECT ENGINE TO AIRFRAME HARNESS FROM ENGINE HARNESS. CHECK FOR CONTINUITY BETWEEN ENGINE TO AIRFRAME HARNESS PLUG PIN 28 AND PIN K. IS CONTINUITY PRESENT?
YES
DISCONNECT OIL TEMPERATURE TRANSMITTER PLUG. CHECK FOR RESISTANCE BETWEEN PINS OF TRANSMITTER RECEPTACLE. IS RESISTANCE BETWEEN 77 AND 104 OHMS?
YES
REPLACE ENGINE HARNESS
NO
LOCATE OPEN IN WIRE W557-73-22, W639-52-22, OR W592-7-22 BETWEEN PLUG 052P2 AND RECEPTACLE 300J32. REPAIR OR REPLACE WIRE AS REQUIRED
YES
OPEN NO. 2 ENGINE WORK PLATFORM AND ACCESS DOORS. DISCONNECT ENGINE TO AIRFRAME HARNESS AT DISCONNECT SHELF. CHECK FOR GROUND ON HARNESS PLUG PIN 29. IS GROUND PRESENT?
YES
DISCONNECT ENGINE TO AIRFRAME HARNESS FROM ENGINE HARNESS. CHECK FOR CONTINUITY BETWEEN PIN 29 AND PIN N ON ENGINE TO AIRFRAME HARNESS. IS CONTINUITY PRESENT?
NO
REPLACE ENGINE TO AIRFRAME HARNESS 300W1
NO
REPLACE NO. 2 ENGINE OIL TEMPERATURE TRANSMITTER
NO
REPLACE ENGINE TO AIRFRAME HARNESS 300W1

END OF TASK

8-5 POWER TURBINE INLET TEMPERATURE SYSTEM

8-5 POWER TURBINE INLET TEMPERATURE SYSTEM 8-5

8-5.1 POWER TURBINE INLET TEMPERATURE SYSTEM WIRING DIAGRAM 8-5.1



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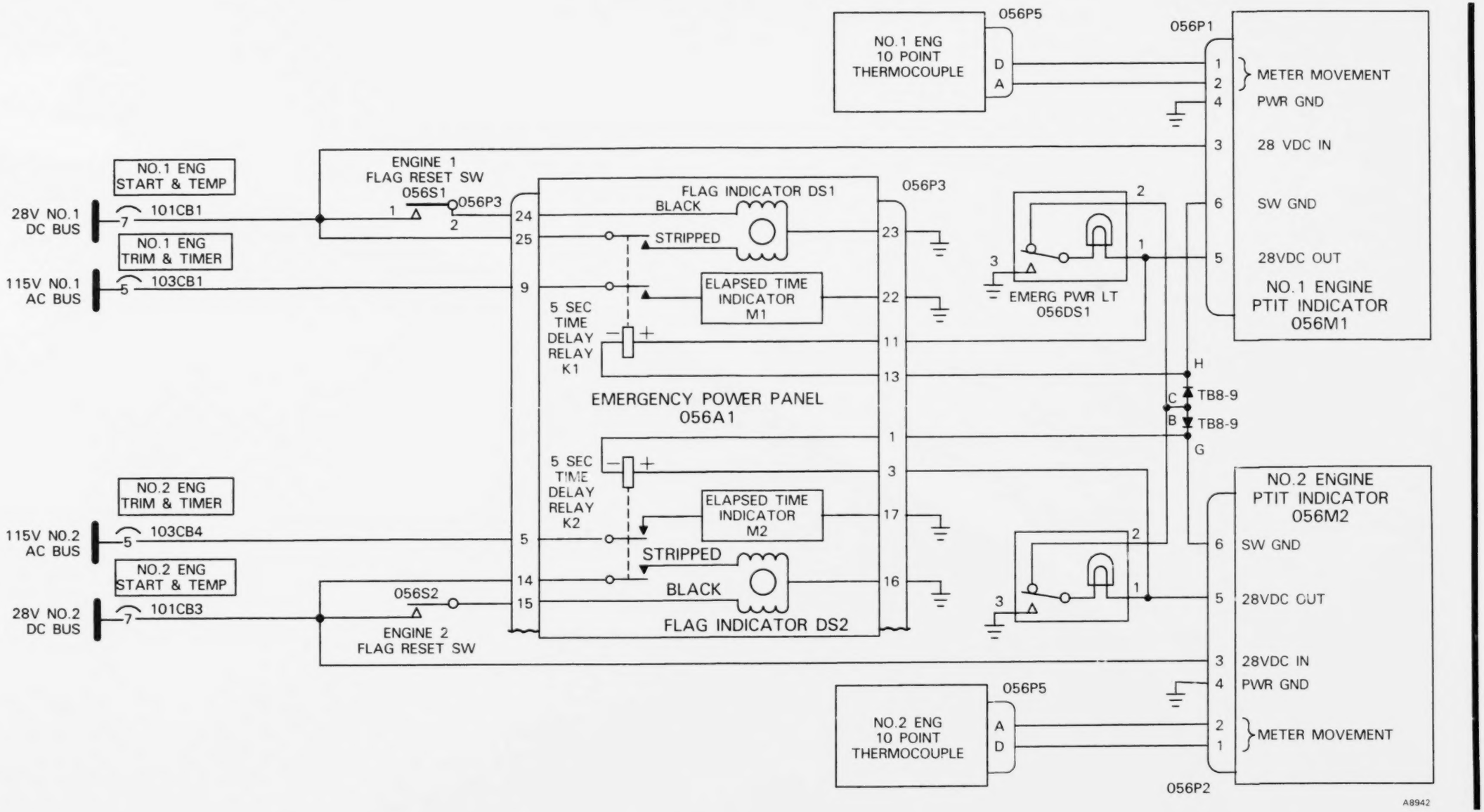
8-5.1.1 POWER TURBINE INLET TEMPERATURE SYSTEM SCHEMATIC DIAGRAM



END OF TASK

8-5.2 POWER TURBINE INLET TEMPERATURE SYSTEM VISUAL CHECK

INITIAL SETUP

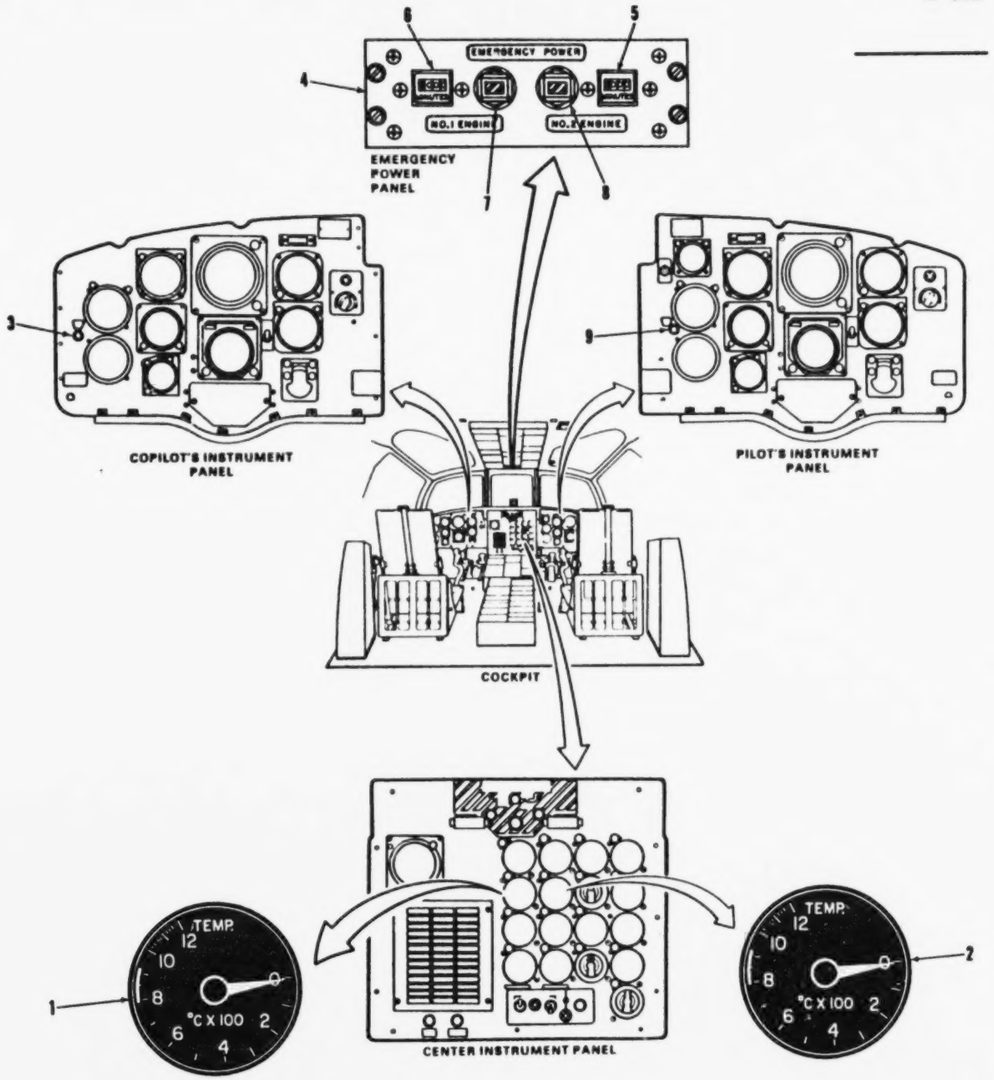
Applicable Configurations:
All

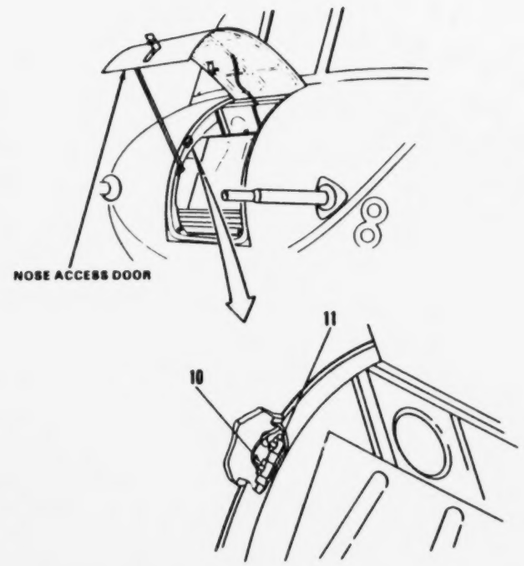
Tools:
None

Materials:
None

Personnel Required:
68F10 Aircraft Electrician

References:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Nose Access Door Open





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8-5.2 POWER TURBINE INLET TEMPERATURE SYSTEM VISUAL CHECK (Continued)

TASK	RESULT
1 **Check NO. 1 PTIT indicator (1).**	If indicator (1) is loose or damaged, tighten or replace it as required.
2 **Check NO. 2 PTIT indicator (2).**	If indicator (2) is loose or damaged, tighten or replace it as required.
3 **Check copilot's EMERG PWR light (3).**	If light (3) is loose or damaged, tighten or replace it as required.
4 **Check EMERGENCY POWER panel (4).**	If timers (5 and 6) are loose or damaged, tighten or replace them as required. If latch indicators (7 and 8) are loose or damaged, tighten or replace them as required.
5 **Check pilot's EMERG PWR light (9).**	If light (9) is loose or damaged, tighten or replace it as required.
6 **Check ENG NO. 1 and ENG NO. 2 FLAG RESET switches (10 and 11).**	If switches (10 and 11) are loose or damaged, tighten or replace them as required.

FOLLOW-ON MAINTENANCE

None

END OF TASK

8-5.3 POWER TURBINE INLET TEMPERATURE SYSTEM OPERATIONAL CHECK AND EMERGENCY POWER INDICATING SYSTEM TEST

INITIAL SETUP

Applicable Configurations:
All

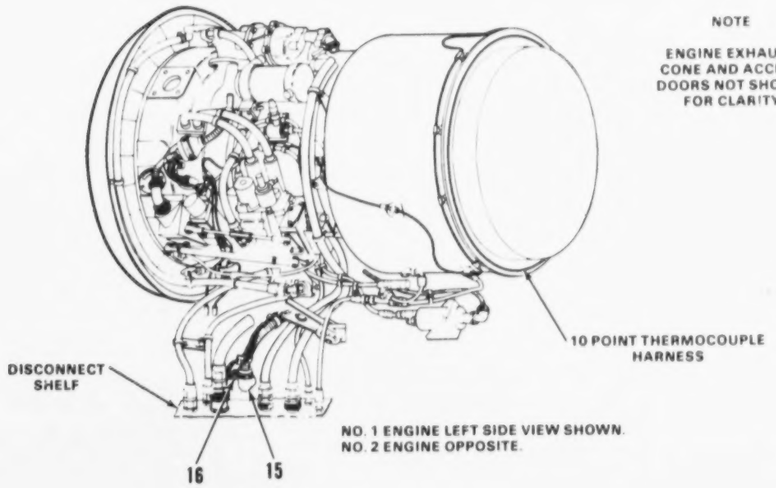
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Exhaust Gas Temperature Tester BH112HB-53, NSN 4920-00-372-4593
T140 Test Harness

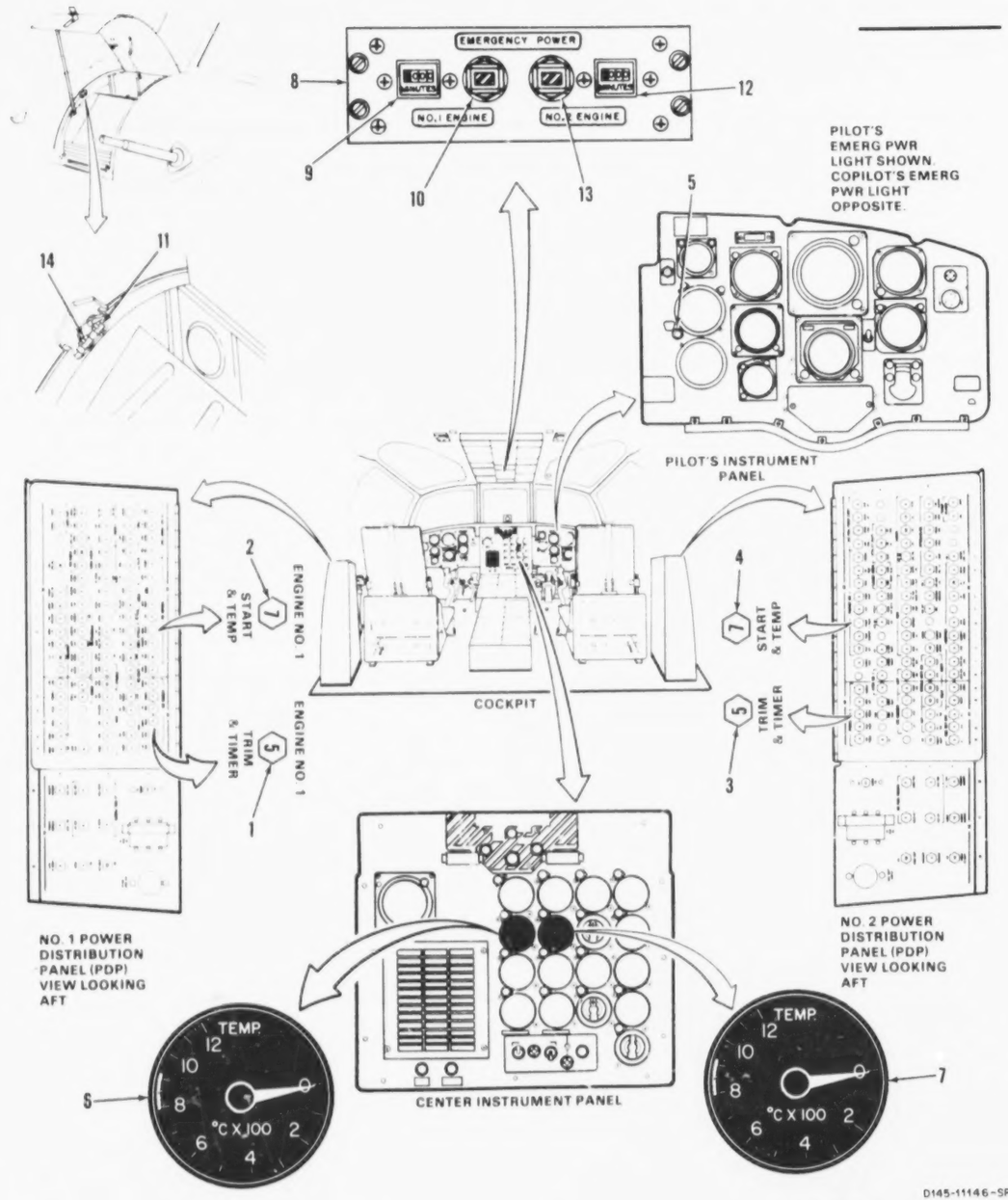
Materials:
None

Personnel Required:
Aircraft Electrician (2)
Army Rotary-Wing Aviator

References:
TM 55-1520-240-23
TM 55-1520-240-10
TM 55-4920-401-13

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off
No. 1 Engine Work Platform Open
No. 1 Engine Lower Access Door Open
No. 2 Engine Work Platform Open
No. 2 Engine Lower Access Door Open
Visual Check of Power Turbine Inlet Temperature and Emergency Power Indicating System Performed (Task 8-5.2)


NOTE
ENGINE EXHAUST CONE AND ACCESS DOORS NOT SHOWN FOR CLARITY
DISCONNECT SHELF
10 POINT THERMOCOUPLE HARNESS
16
15
NO. 1 ENGINE LEFT SIDE VIEW SHOWN. NO. 2 ENGINE OPPOSITE.



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8-5.3 POWER TURBINE INLET TEMPERATURE SYSTEM OPERATIONAL CHECK AND EMERGENCY POWER INDICATING SYSTEM TEST (Continued)

TASK	RESULT
CHECK PTIT INDICATING SYSTEM	
1. **Check** that **ENGINE NO. 1 TRIM & TIMER circuit breaker (1)** is **closed.**	If circuit breaker (1) is open, close it. If it opens again, go to Task 4-6.3.
2. **Check** that **ENGINE NO. 1 START & TEMP circuit breaker (2)** is **closed.**	If circuit breaker (2) is open, close it. If it opens again, go to Task 4-4.4.
3. **Check** that **ENGINE NO. 2 TRIM & TIMER circuit breaker (3)** is **closed.**	If circuit breaker (3) is open, close it. If it opens again, go to Task 4-6.3.
4. **Check** that **ENGINE NO. 2 START & TEMP circuit breaker (4)** is **closed.**	If circuit breaker (4) is open, close it. If it opens again, go to Task 4-4.4.
5. Momentarily **press copilot's EMERG PWR light (5).**	Light (5) shall come on. If not, go to Task 8-5.4.
6. Momentarily **press pilot's EMERG PWR light (5).**	Light (5) shall come on. If not, go to Task 8-5.4.
7. Have pilot start engines and stabilize rotors at 100% rotor rpm.	
8. **Check NO. 1 ENGINE PTIT indicator (6).**	Indicator (6) shall read in green band. If not go to Task 8-5.5.
9. **Check NO. 2 ENGINE PTIT indicator (7).**	Indicator (7) shall read in green band. If not go to Task 8-5.6.
TEST EMERGENCY POWER INDICATING SYSTEM	
WARNING **Do not reset striped flag unless proper log entry was made and any required engine inspection is completed. Striped flag indicates engine was operating in an overtemp condition and a log book entry must be made prior to next flight.**	
NOTE The timer records total minutes of engine overtemperature. This information is used to schedule engine maintenance action.	
10. **Check pilot's and copilot's EMERG PWR lights (5).**	Both lights (5) shall be out. If not, go to Task 8-5.7.
11. **Check EMERGENCY POWER panel (8).**	NO. 1 and NO. 2 ENGINE timers (9 and 12) shall not be operating. If either timer is operating, replace EMERGENCY POWER panel. NO. 1 and NO. 2 ENGINE flag indicators (10 and 13) shall be black. If not, reset NO. 1 or NO. 2 ENG FLAG RESET switches (11 and 14). If indicators do not reset to black, go to Task 8-5.8.
12. Have pilot shut down both engines.	
CAUTION **The following procedure simulates engine overtemperature to check out indicator and timer circuits. The timer will operate, therefore, follow procedures closely to avoid excessive time being added to engine overtemperature time.**	
13. Disconnect plug (15) at NO. 1 ENGINE disconnect shelf. Connect cable from tester into receptacle (16) with test harness T140. Have helper observe NO. 1 ENGINE PTIT indicator (6). Increase millivolt output from tester until PTIT indication is 820°C. Check EMERGENCY POWER panel (9).	NO. 1 ENGINE timer (9) shall not be operating. If it is, replace NO. 1 ENGINE PTIT indicator. NO. 1 ENGINE flag indicator (10) shall be black. If it is striped, replace NO. 1 ENGINE PTIT indicator (6).

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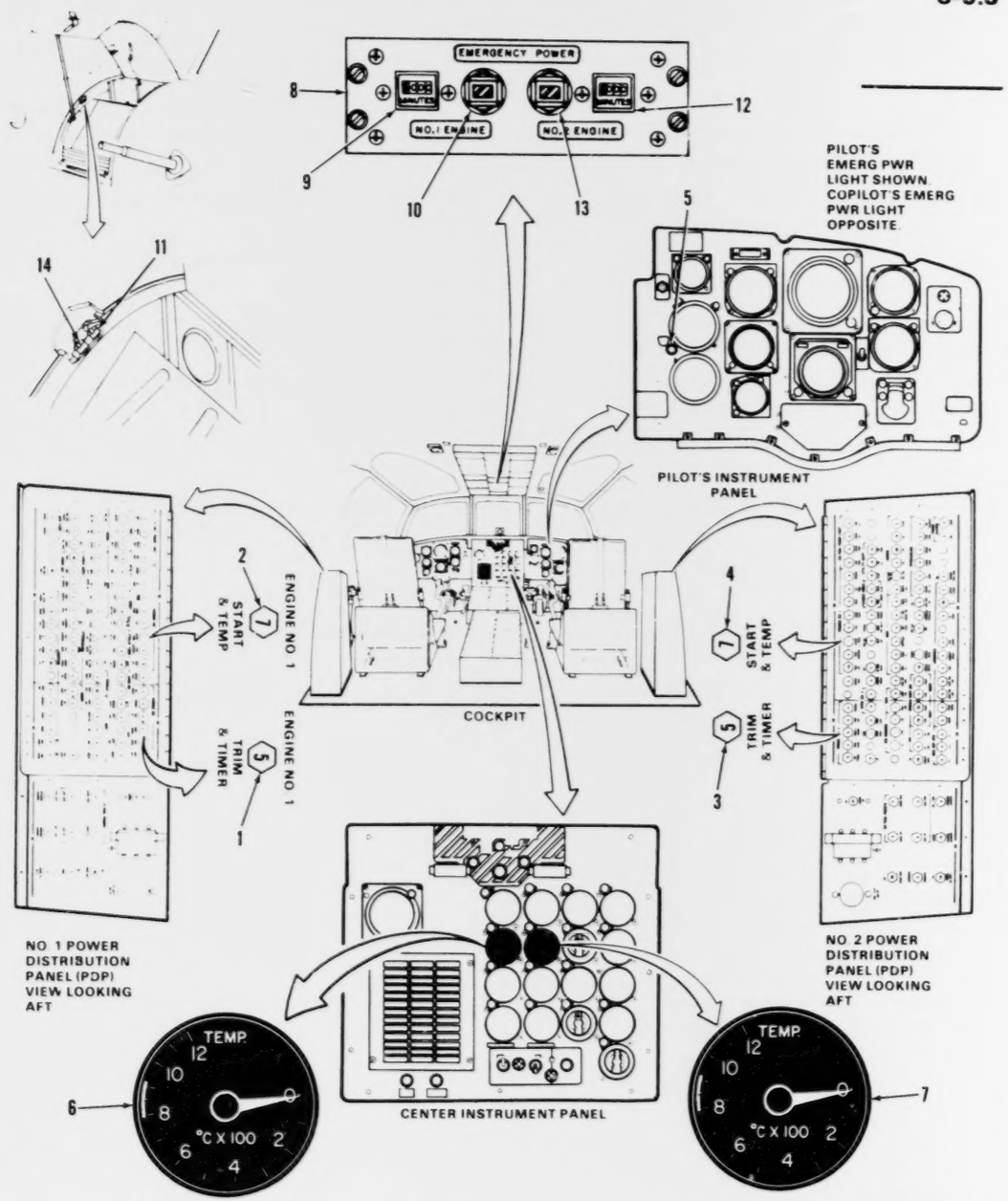
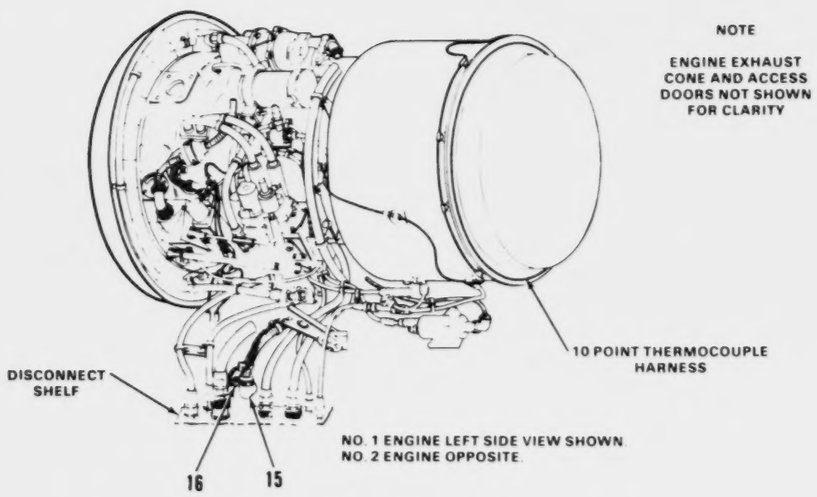
8-5.3 POWER TURBINE INLET TEMPERATURE SYSTEM OPERATIONAL CHECK AND EMERGENCY POWER INDICATING SYSTEM TEST (Continued)





NO. 1 ENGINE LEFT SIDE VIEW SHOWN. NO. 2 ENGINE OPPOSITE.

NOTE

ENGINE EXHAUST CONE AND ACCESS DOORS NOT SHOWN FOR CLARITY

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8-5.3 POWER TURBINE INLET TEMPERATURE SYSTEM OPERATIONAL CHECK AND EMERGENCY POWER INDICATING SYSTEM TEST (Continued)

TASK	RESULT
CAUTION **The following procedure simulates engine overtemperature to check out indicator and timer circuits. The timer will operate, therefore, follow procedures closely to avoid excessive time being added to engine overtemperature time.**	
14. Have helper observe NO. 1 ENGINE PTIT indicator (6). Increase millivolt output from tester until **NO. 1 ENGINE** timer (9) starts to operate.	Pilot's and copilot's EMERG PWR lights (5) shall be out. If not, replace NO. 1 ENGINE PTIT indicator (6). NO. 1 ENGINE timer (9) shall operate when PTIT indication is between 890°C and 910°C. If not, go to Task 8-5.9. NO. 1 ENGINE flag indicator (10) shall be striped. If not, go to Task 8-5.10. Pilot's and copilot's EMERG PWR lights (5) shall be on. If not, go to Task 8-5.11.
15. Immediately reduce tester output until NO. 1 ENGINE PTIT indication is between 800°C and 820°C.	NO. 1 ENGINE timer (9) shall stop. If it does not, replace NO. 1 ENGINE PTIT indicator. NO. 1 ENGINE flag indicator (10) shall remain striped. If not, replace NO. 1 ENGINE PTIT indicator. Pilot's and copilot's EMERG PWR lights (5) shall be out. If not, replace NO. 1 ENGINE PTIT indicator.
16. Disconnect test harness from plug (15). Connect plug (15) to receptacle (16).	
17. Disconnect plug (15) at NO. 2 ENGINE disconnect shelf. Connect cable from tester into receptacle (16) with test harness T140. Have helper observe NO. 2 ENGINE PTIT indicator (6). Increase millivolt output from tester until PTIT indication is 820°C. Check EMERG POWER panel (9).	NO. 2 ENGINE timer (12) shall not be operating. If it is, replace NO. 2 ENGINE PTIT indicator. NO. 2 ENGINE flag indicator (13) shall be black. If it is striped, replace NO. 2 ENGINE PTIT indicator.
18. Have helper observe **NO. 2 ENGINE** PTIT indicator (6). Increase millivolt output from tester until NO. 2 ENGINE timer (12) starts to operate.	Pilot's and copilot's EMERG PWR lights (5) shall be out. If not, replace NO. 1 ENGINE PTIT indicator (6). NO. 2 ENGINE timer (12) shall operate when PTIT indication is between 890°C and 910°C. If not, go to Task 8-5.12. NO. 2 ENGINE flag indicator (13) shall be striped. If not, go to Task 8-5.10. Pilot's and copilot's EMERG PWR lights (5) shall be on. If not, go to Task 8-5.11.
19. Immediately reduce tester output until NO. 2 ENGINE PTIT indication is between 800°C and 820°C.	NO. 2 ENGINE timer (12) shall stop. If it does not, replace NO. 2 ENGINE PTIT indicator. NO. 2 ENGINE flag indicator (13) shall remain striped. If not, replace NO. 2 ENGINE PTIT indicator. Pilot's and copilot's EMERG PWR lights (5) shall be out. If not, replace NO. 2 ENGINE PTIT indicator.
20. Disconnect test harness from plug (15). Connect plug (15) to receptacle (16).	
21. **Reset NO. 1 and NO. 2 ENGINE FLAG RESET switches (11 and 14).**	

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23:
- Battery Disconnected
- Electrical Power Off
- Hydraulic Power Off

Close No. 1 Engine Work Platform
Close No. 1 Engine Lower Access Door
Close No. 2 Engine Work Platform
Close No. 2 Engine Lower Access Panel

END OF TASK

8-5.4 NO. 1 OR NO. 2 ENGINE EMERGENCY POWER LIGHTS WILL NOT COME ON WHEN PRESSED TO TEST

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

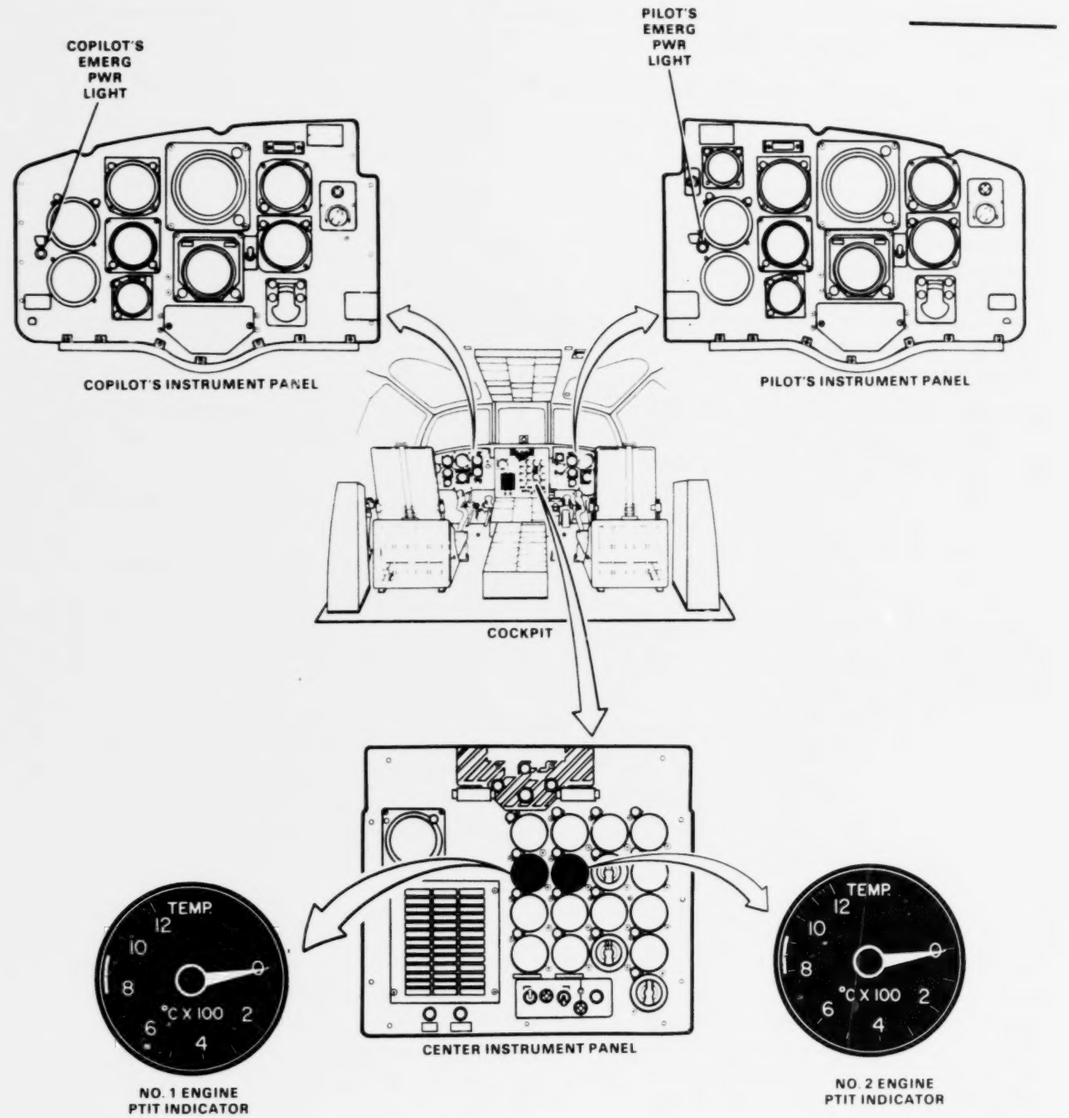
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power On



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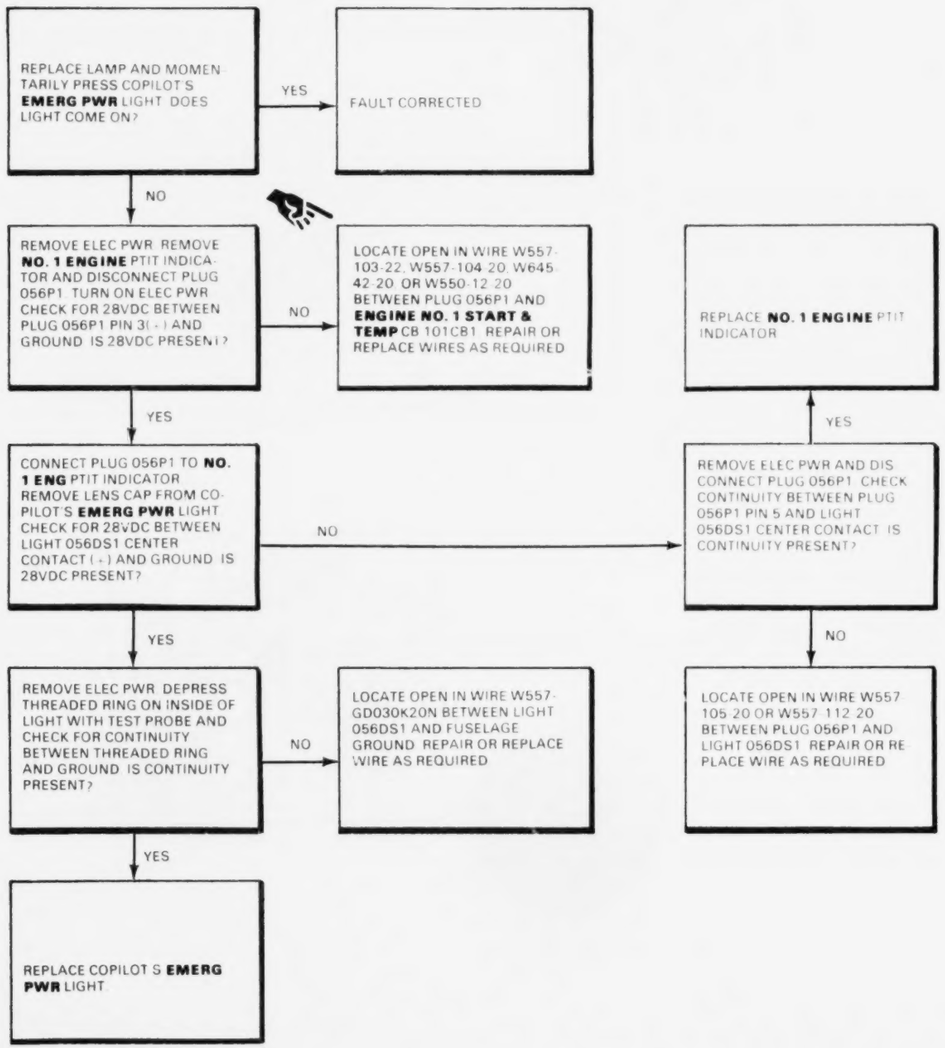
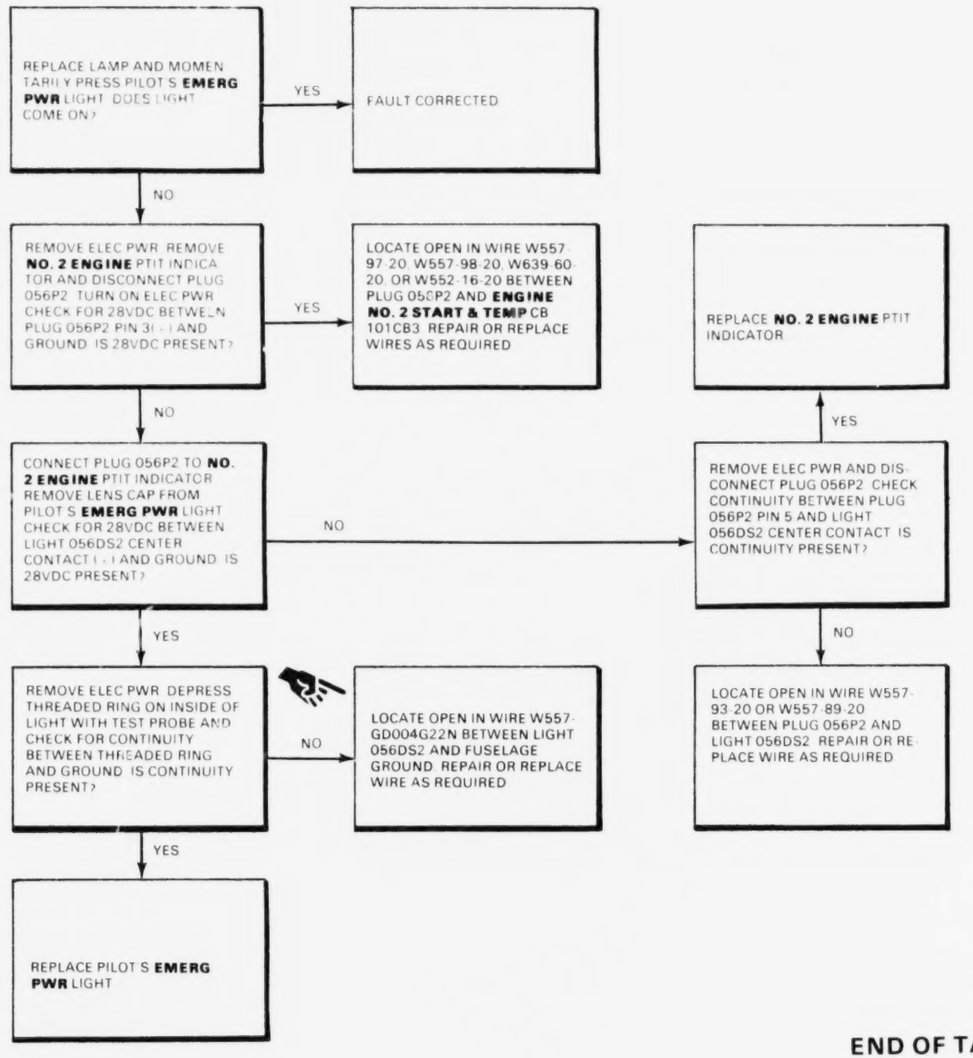
8-5.4 NO. 1 OR NO. 2 ENGINE EMERGENCY POWER LIGHTS WILL NOT COME ON WHEN PRESSED TO TEST (Continued)

NO. 1 ENGINE EMERGENCY POWER LIGHT WILL NOT COME ON WHEN PRESSED TO TEST


REPLACE LAMP AND MOMENTARILY PRESS COPILOT'S **EMERG PWR** LIGHT. DOES LIGHT COME ON?
YES
FAULT CORRECTED
NO
REMOVE ELEC PWR. REMOVE **NO. 1 ENGINE** PTIT INDICATOR AND DISCONNECT PLUG 056P1. TURN ON ELEC PWR. CHECK FOR 28VDC BETWEEN PLUG 056P1 PIN 3(+) AND GROUND. IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W557-103-22, W557-104-20, W645-42-20, OR W550-12-20 BETWEEN PLUG 056P1 AND **ENGINE NO. 1 START & TEMP** CB 101CB1. REPAIR OR REPLACE WIRES AS REQUIRED
YES
CONNECT PLUG 056P1 TO **NO. 1 ENG** PTIT INDICATOR. REMOVE LENS CAP FROM COPILOT'S **EMERG PWR** LIGHT. CHECK FOR 28VDC BETWEEN LIGHT 056DS1 CENTER CONTACT (+) AND GROUND. IS 28VDC PRESENT?
NO
REMOVE ELEC PWR AND DISCONNECT PLUG 056P1. CHECK CONTINUITY BETWEEN PLUG 056P1 PIN 5 AND LIGHT 056DS1 CENTER CONTACT. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W557-105-20 OR W557-112-20 BETWEEN PLUG 056P1 AND LIGHT 056DS1. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE ELEC PWR. DEPRESS THREADED RING ON INSIDE OF LIGHT WITH TEST PROBE AND CHECK FOR CONTINUITY BETWEEN THREADED RING AND GROUND. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W557-GD030K20N BETWEEN LIGHT 056DS1 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE COPILOT'S **EMERG PWR** LIGHT
YES
REPLACE **NO. 1 ENGINE** PTIT INDICATOR

NO. 2 ENGINE EMERGENCY POWER LIGHT WILL NOT COME ON WHEN PRESSED TO TEST


REPLACE LAMP AND MOMENTARILY PRESS PILOT'S **EMERG PWR** LIGHT. DOES LIGHT COME ON?
YES
FAULT CORRECTED
NO
REMOVE ELEC PWR. REMOVE **NO. 2 ENGINE** PTIT INDICATOR AND DISCONNECT PLUG 056P2. TURN ON ELEC PWR. CHECK FOR 28VDC BETWEEN PLUG 056P2 PIN 3(+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W557-97-20, W557-98-20, W639-60-20, OR W552-16-20 BETWEEN PLUG 056P2 AND **ENGINE NO. 2 START & TEMP** CB 101CB3. REPAIR OR REPLACE WIRES AS REQUIRED
NO
CONNECT PLUG 056P2 TO **NO. 2 ENGINE** PTIT INDICATOR. REMOVE LENS CAP FROM PILOT'S **EMERG PWR** LIGHT. CHECK FOR 28VDC BETWEEN LIGHT 056DS2 CENTER CONTACT (+) AND GROUND. IS 28VDC PRESENT?
NO
REMOVE ELEC PWR AND DISCONNECT PLUG 056P2. CHECK CONTINUITY BETWEEN PLUG 056P2 PIN 5 AND LIGHT 056DS2 CENTER CONTACT. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W557-93-20 OR W557-89-20 BETWEEN PLUG 056P2 AND LIGHT 056DS2. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE ELEC PWR. DEPRESS THREADED RING ON INSIDE OF LIGHT WITH TEST PROBE AND CHECK FOR CONTINUITY BETWEEN THREADED RING AND GROUND. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W557-GD004G22N BETWEEN LIGHT 056DS2 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE PILOT'S **EMERG PWR** LIGHT
YES
REPLACE **NO. 2 ENGINE** PTIT INDICATOR

END OF TASK

8-5.5 NO. 1 ENGINE PTIT INDICATOR DOES NOT INDICATE IN GREEN BAND

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

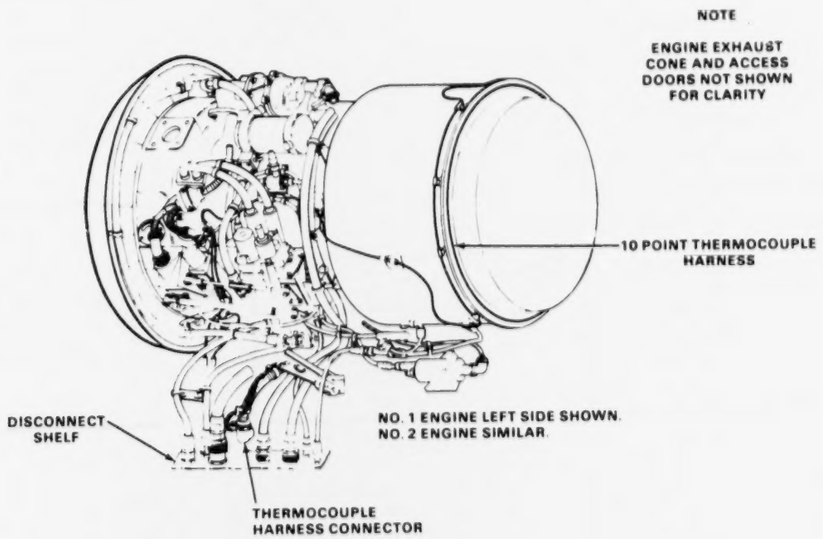
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

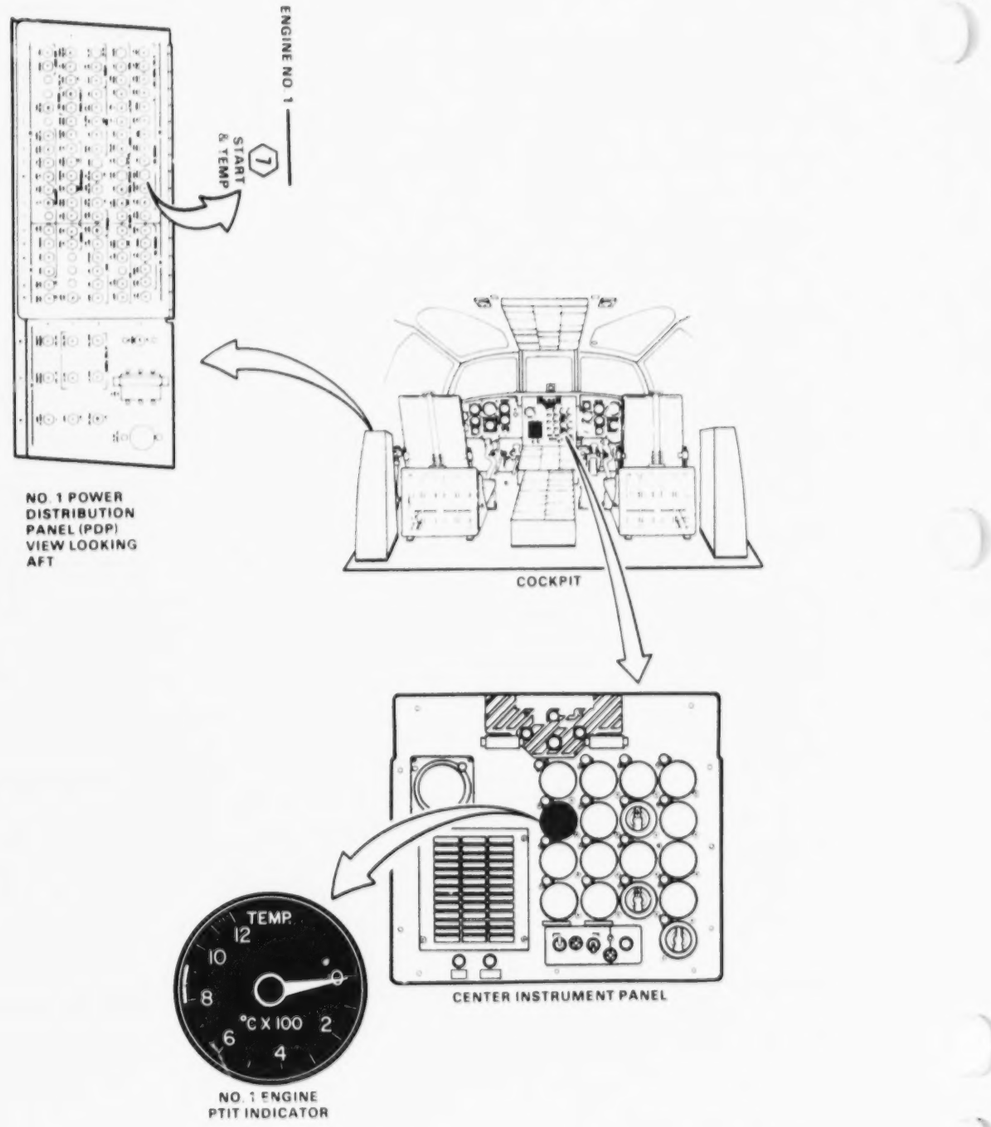
Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power On
No. 1 Engine Work Platform Open
No. 1 Engine Upper and Lower Access Covers Open


NOTE
ENGINE EXHAUST CONE AND ACCESS DOORS NOT SHOWN FOR CLARITY
10 POINT THERMOCOUPLE HARNESS
DISCONNECT SHELF
NO. 1 ENGINE LEFT SIDE SHOWN. NO. 2 ENGINE SIMILAR.
THERMOCOUPLE HARNESS CONNECTOR



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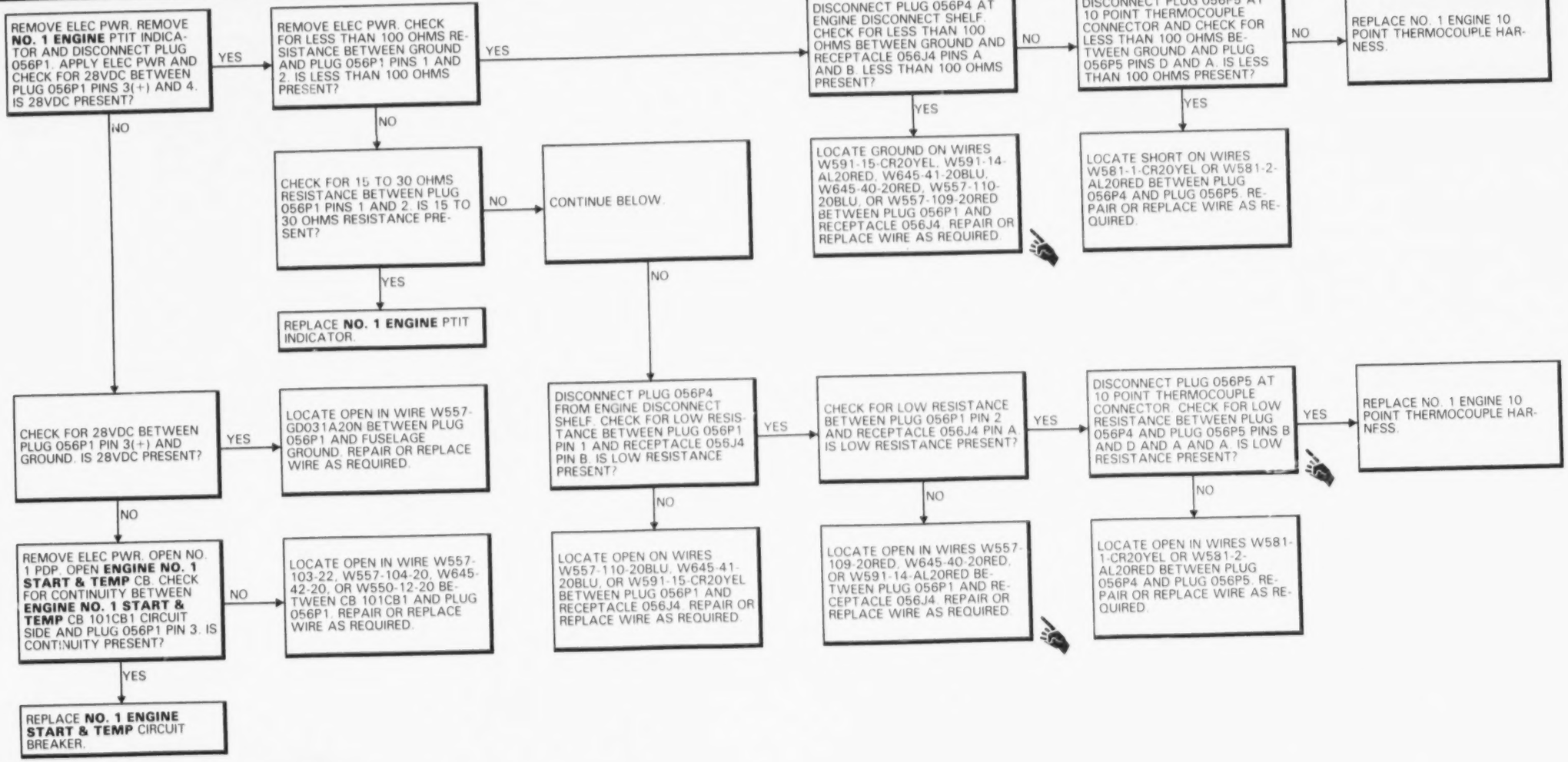
8-5.5 NO. 1 ENGINE PTIT INDICATOR DOES NOT INDICATE IN GREEN BAND (Continued)


REMOVE ELEC PWR. REMOVE **NO. 1 ENGINE** PTIT INDICATOR AND DISCONNECT PLUG 056P1. APPLY ELEC PWR AND CHECK FOR 28VDC BETWEEN PLUG 056P1 PINS 3(+) AND 4. IS 28VDC PRESENT?
YES
NO
REMOVE ELEC PWR. CHECK FOR LESS THAN 100 OHMS RESISTANCE BETWEEN GROUND AND PLUG 056P1 PINS 1 AND 2. IS LESS THAN 100 OHMS PRESENT?
YES
NO
CHECK FOR 15 TO 30 OHMS RESISTANCE BETWEEN PLUG 056P1 PINS 1 AND 2. IS 15 TO 30 OHMS RESISTANCE PRESENT?
NO
CONTINUE BELOW.
YES
REPLACE **NO. 1 ENGINE** PTIT INDICATOR.
DISCONNECT PLUG 056P4 AT ENGINE DISCONNECT SHELF. CHECK FOR LESS THAN 100 OHMS BETWEEN GROUND AND RECEPTACLE 056J4 PINS A AND B. LESS THAN 100 OHMS PRESENT?
NO
YES
DISCONNECT PLUG 056P5 AT 10 POINT THERMOCOUPLE CONNECTOR AND CHECK FOR LESS THAN 100 OHMS BETWEEN GROUND AND PLUG 056P5 PINS D AND A. IS LESS THAN 100 OHMS PRESENT?
NO
YES
REPLACE NO. 1 ENGINE 10 POINT THERMOCOUPLE HARNESS.
LOCATE GROUND ON WIRES W591-15-CR20YEL, W591-14-AL20RED, W645-41-20BLU, W645-40-20RED, W557-110-20BLU, OR W557-109-20RED BETWEEN PLUG 056P1 AND RECEPTACLE 056J4. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE SHORT ON WIRES W581-1-CR20YEL OR W581-2-AL20RED BETWEEN PLUG 056P4 AND PLUG 056P5. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR 28VDC BETWEEN PLUG 056P1 PIN 3(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-GD031A20N BETWEEN PLUG 056P1 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELEC PWR. OPEN NO. 1 PDP. OPEN **ENGINE NO. 1 START & TEMP** CB. CHECK FOR CONTINUITY BETWEEN **ENGINE NO. 1 START & TEMP** CB 101CB1 CIRCUIT SIDE AND PLUG 056P1 PIN 3. IS CONTINUITY PRESENT?
NO
YES
LOCATE OPEN IN WIRE W557-103-22, W557-104-20, W645-42-20, OR W550-12-20 BETWEEN CB 101CB1 AND PLUG 056P1. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE **NO. 1 ENGINE START & TEMP** CIRCUIT BREAKER.
DISCONNECT PLUG 056P4 FROM ENGINE DISCONNECT SHELF. CHECK FOR LOW RESISTANCE BETWEEN PLUG 056P1 PIN 1 AND RECEPTACLE 056J4 PIN B. IS LOW RESISTANCE PRESENT?
YES
NO
LOCATE OPEN ON WIRES W557-110-20BLU, W645-41-20BLU, OR W591-15-CR20YEL BETWEEN PLUG 056P1 AND RECEPTACLE 056J4. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR LOW RESISTANCE BETWEEN PLUG 056P1 PIN 2 AND RECEPTACLE 056J4 PIN A. IS LOW RESISTANCE PRESENT?
YES
NO
LOCATE OPEN IN WIRES W557-109-20RED, W645-40-20RED, OR W591-14-AL20RED BETWEEN PLUG 056P1 AND RECEPTACLE 056J4. REPAIR OR REPLACE WIRE AS REQUIRED.
DISCONNECT PLUG 056P5 AT 10 POINT THERMOCOUPLE CONNECTOR. CHECK FOR LOW RESISTANCE BETWEEN PLUG 056P4 AND PLUG 056P5 PINS B AND D AND A AND A. IS LOW RESISTANCE PRESENT?
YES
NO
REPLACE NO. 1 ENGINE 10 POINT THERMOCOUPLE HARNESS.
LOCATE OPEN IN WIRES W581-1-CR20YEL OR W581-2-AL20RED BETWEEN PLUG 056P4 AND PLUG 056P5. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

8-5.6 NO. 2 ENGINE PTIT INDICATOR DOES NOT INDICATE IN GREEN BAND

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

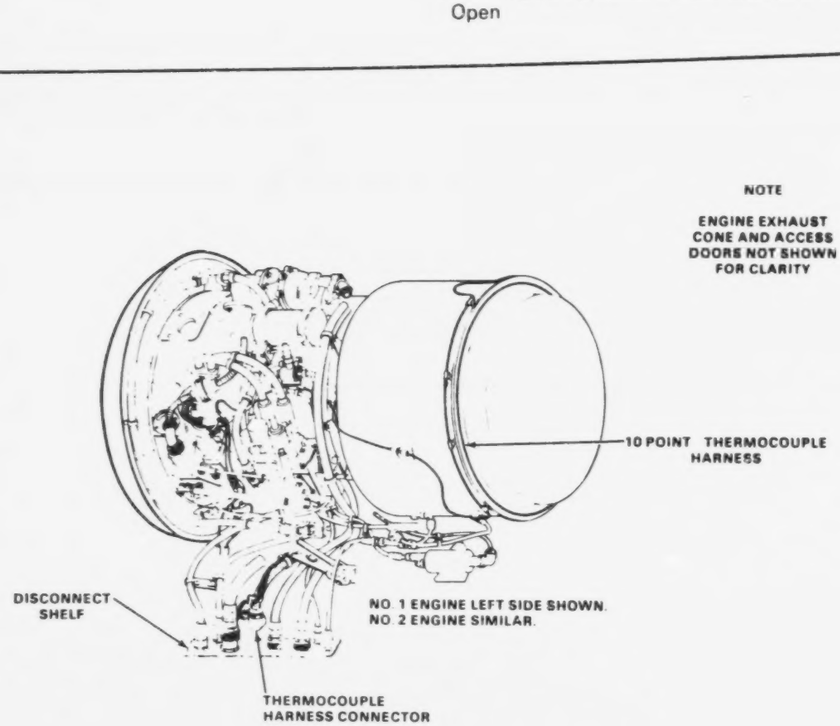
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

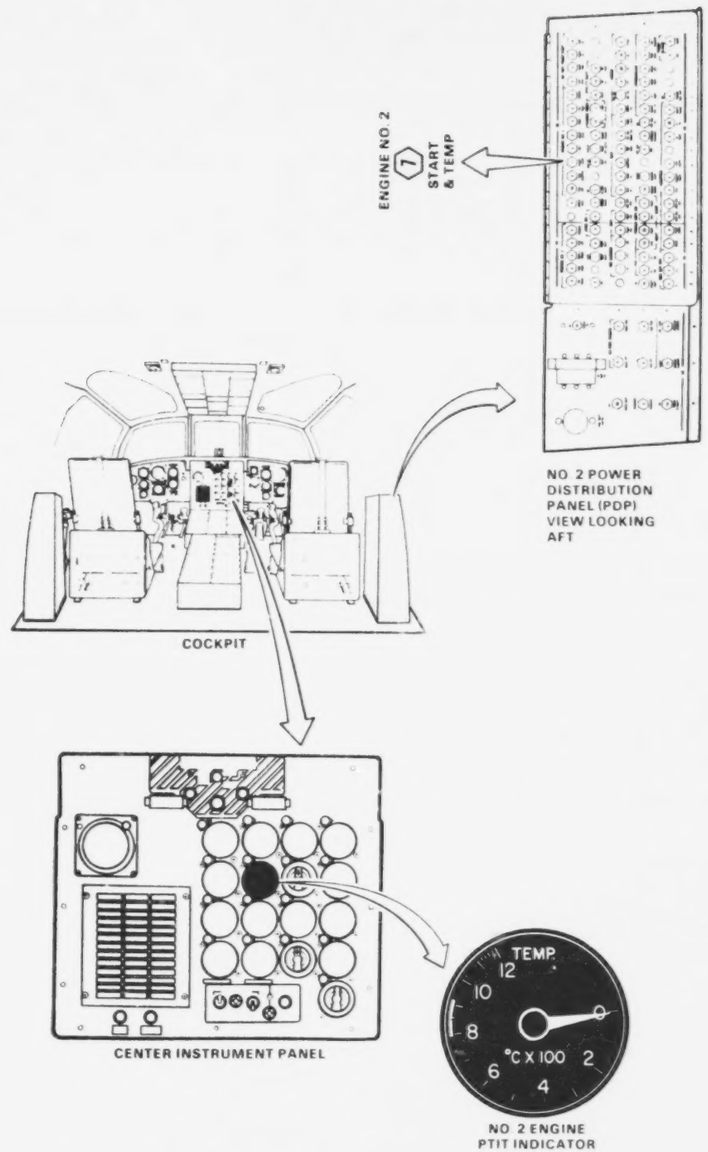
Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power On
No. 2 Engine Work Platform Open
No. 2 Engine Upper and Lower Access Doors Open


NOTE
ENGINE EXHAUST CONE AND ACCESS DOORS NOT SHOWN FOR CLARITY
10 POINT THERMOCOUPLE HARNESS
DISCONNECT SHELF
NO. 1 ENGINE LEFT SIDE SHOWN. NO. 2 ENGINE SIMILAR.
THERMOCOUPLE HARNESS CONNECTOR



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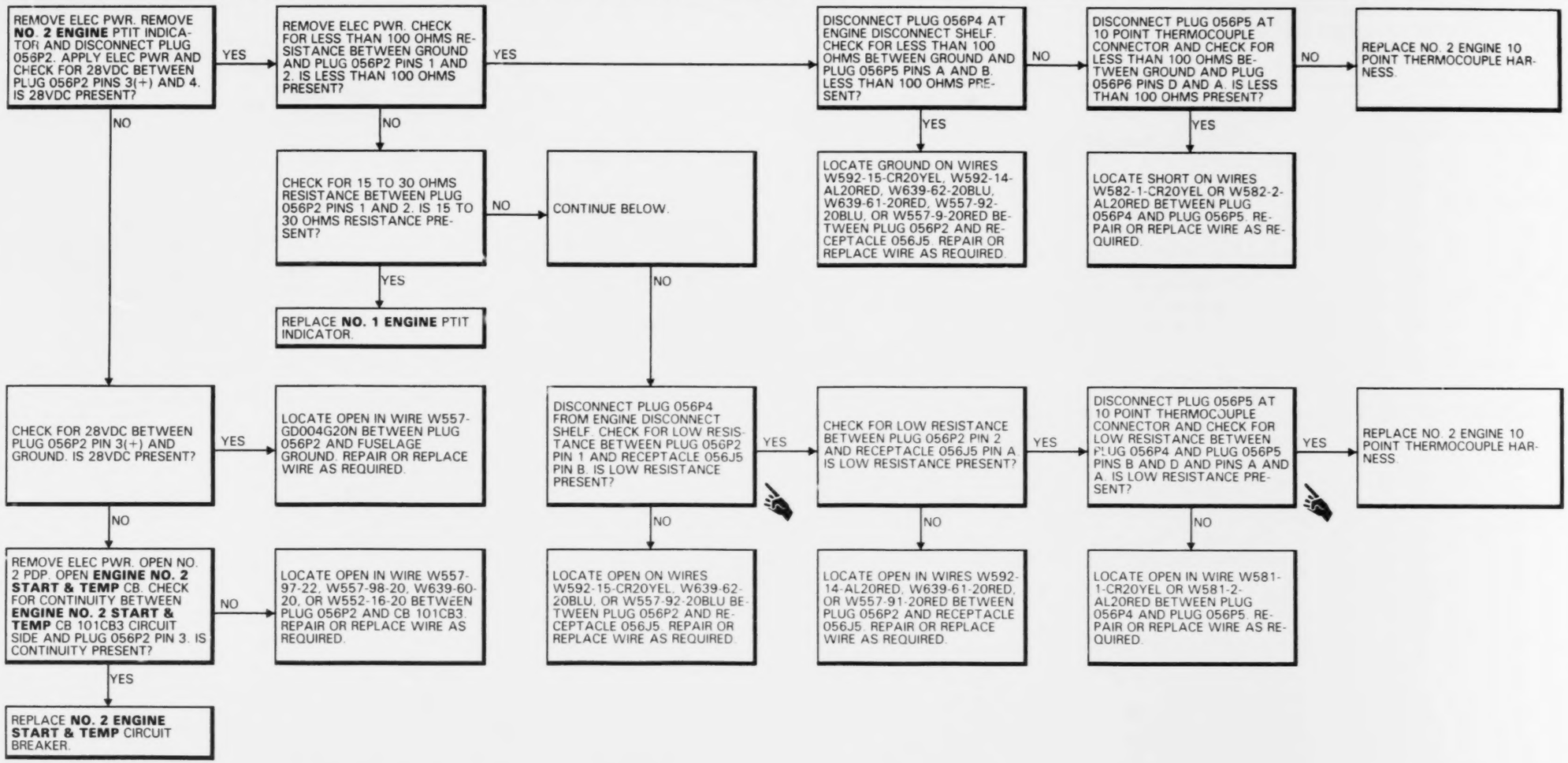

REMOVE ELEC PWR. REMOVE **NO. 2 ENGINE** PTIT INDICATOR AND DISCONNECT PLUG 056P2. APPLY ELEC PWR AND CHECK FOR 28VDC BETWEEN PLUG 056P2 PINS 3(+) AND 4. IS 28VDC PRESENT?
YES
REMOVE ELEC PWR. CHECK FOR LESS THAN 100 OHMS RESISTANCE BETWEEN GROUND AND PLUG 056P2 PINS 1 AND 2. IS LESS THAN 100 OHMS PRESENT?
YES
DISCONNECT PLUG 056P4 AT ENGINE DISCONNECT SHELF. CHECK FOR LESS THAN 100 OHMS BETWEEN GROUND AND PLUG 056P5 PINS A AND B. LESS THAN 100 OHMS PRESENT?
NO
DISCONNECT PLUG 056P5 AT 10 POINT THERMOCOUPLE CONNECTOR AND CHECK FOR LESS THAN 100 OHMS BETWEEN GROUND AND PLUG 056P6 PINS D AND A. IS LESS THAN 100 OHMS PRESENT?
NO
REPLACE NO. 2 ENGINE 10 POINT THERMOCOUPLE HARNESS.
NO
CHECK FOR 15 TO 30 OHMS RESISTANCE BETWEEN PLUG 056P2 PINS 1 AND 2. IS 15 TO 30 OHMS RESISTANCE PRESENT?
NO
CONTINUE BELOW.
YES
LOCATE GROUND ON WIRES W592-15-CR20YEL, W592-14-AL20RED, W639-62-20BLU, W639-61-20RED, W557-92-20BLU, OR W557-9-20RED BETWEEN PLUG 056P2 AND RECEPTACLE 056J5. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE SHORT ON WIRES W582-1-CR20YEL OR W582-2-AL20RED BETWEEN PLUG 056P4 AND PLUG 056P5. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE **NO. 1 ENGINE** PTIT INDICATOR.
NO
CHECK FOR 28VDC BETWEEN PLUG 056P2 PIN 3(+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W557-GD004G20N BETWEEN PLUG 056P2 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
DISCONNECT PLUG 056P4 FROM ENGINE DISCONNECT SHELF. CHECK FOR LOW RESISTANCE BETWEEN PLUG 056P2 PIN 1 AND RECEPTACLE 056J5 PIN B. IS LOW RESISTANCE PRESENT?
YES
CHECK FOR LOW RESISTANCE BETWEEN PLUG 056P2 PIN 2 AND RECEPTACLE 056J5 PIN A. IS LOW RESISTANCE PRESENT?
YES
DISCONNECT PLUG 056P5 AT 10 POINT THERMOCOUPLE CONNECTOR AND CHECK FOR LOW RESISTANCE BETWEEN PLUG 056P4 AND PLUG 056P5 PINS B AND D AND PINS A AND A. IS LOW RESISTANCE PRESENT?
YES
REPLACE NO. 2 ENGINE 10 POINT THERMOCOUPLE HARNESS.
NO
REMOVE ELEC PWR. OPEN NO. 2 PDP. OPEN **ENGINE NO. 2 START & TEMP** CB. CHECK FOR CONTINUITY BETWEEN **ENGINE NO. 2 START & TEMP** CB 101CB3 CIRCUIT SIDE AND PLUG 056P2 PIN 3. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W557-97-22, W557-98-20, W639-60-20, OR W552-16-20 BETWEEN PLUG 056P2 AND CB 101CB3. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE **NO. 2 ENGINE START & TEMP** CIRCUIT BREAKER.
NO
LOCATE OPEN ON WIRES W592-15-CR20YEL, W639-62-20BLU, OR W557-92-20BLU BETWEEN PLUG 056P2 AND RECEPTACLE 056J5. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRES W592-14-AL20RED, W639-61-20RED, OR W557-91-20RED BETWEEN PLUG 056P2 AND RECEPTACLE 056J5. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W581-1-CR20YEL OR W581-2-AL20RED BETWEEN PLUG 056P4 AND PLUG 056P5. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

8-5.7 PILOT'S EMERGENCY POWER LIGHTS ON, ROTORS AT 100 PERCENT ROTOR RPM, BOTH ENGINES OPERATING

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

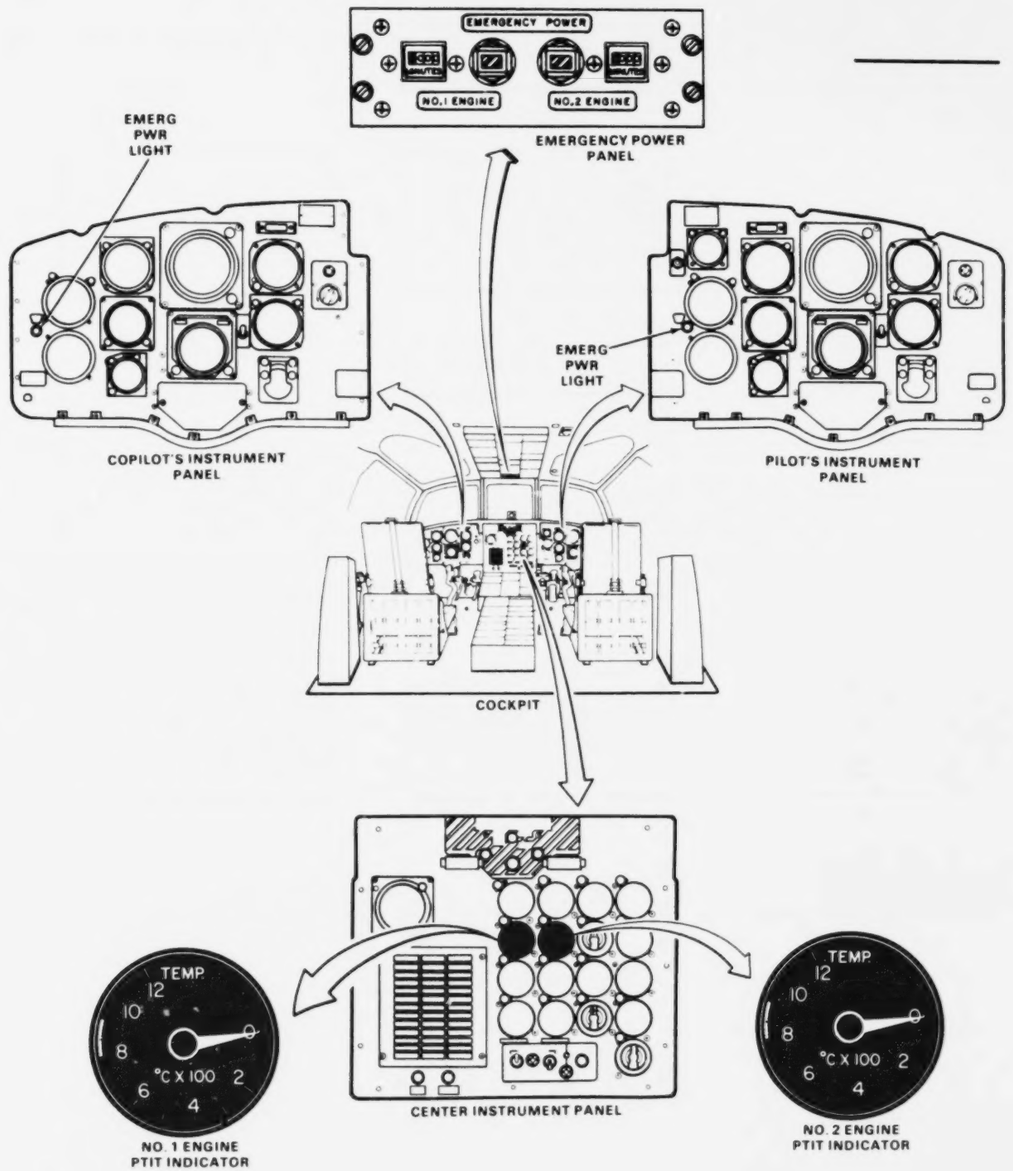
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



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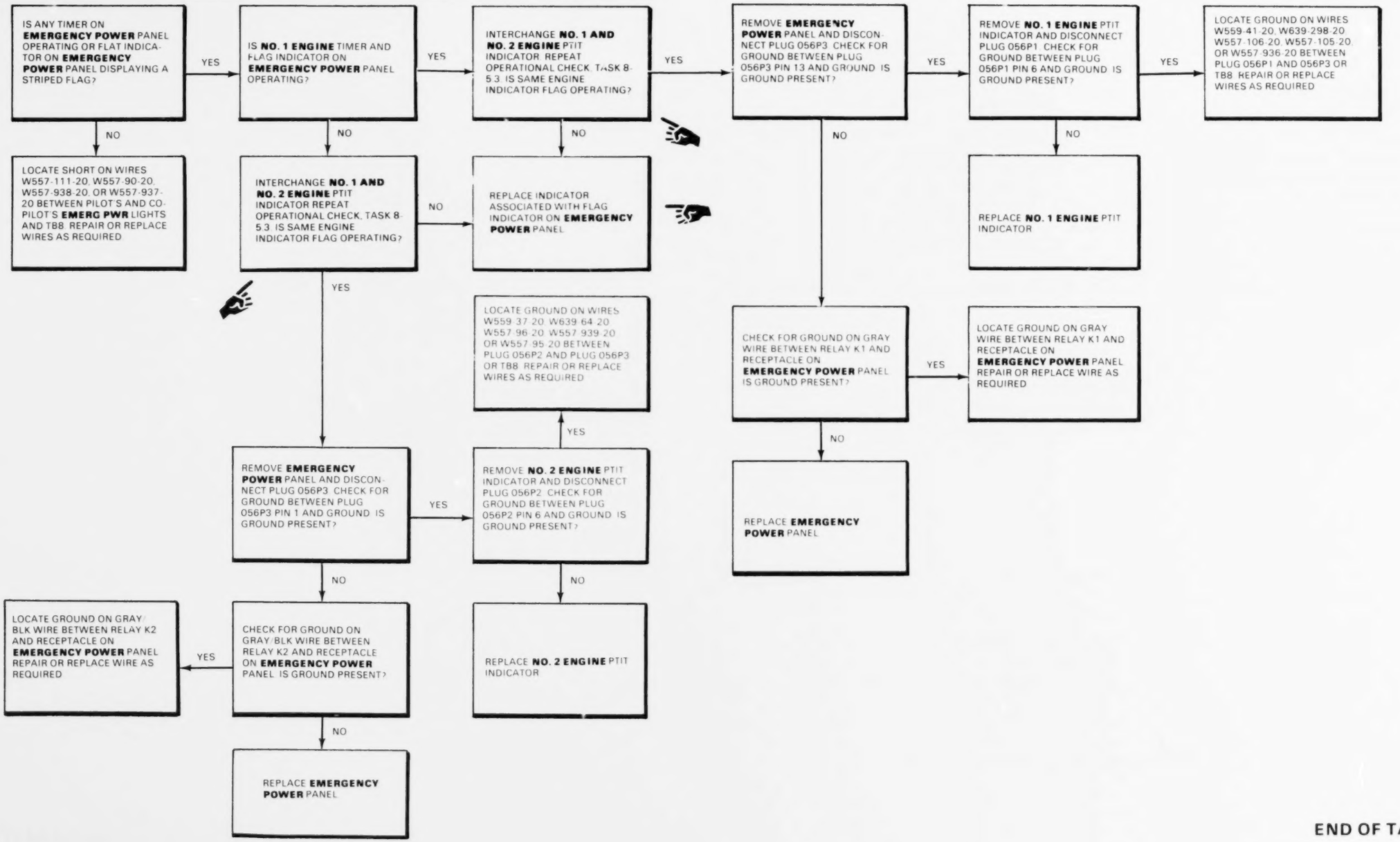
8-5.7 PILOT'S AND COPILOT'S EMERGENCY POWER LIGHTS ON, ROTORS AT 100 PERCENT ROTOR RPM, BOTH ENGINES OPERATING (Continued)


IS ANY TIMER ON EMERGENCY POWER PANEL OPERATING OR FLAT INDICATOR ON EMERGENCY POWER PANEL DISPLAYING A STRIPED FLAG?
YES
IS NO. 1 ENGINE TIMER AND FLAG INDICATOR ON EMERGENCY POWER PANEL OPERATING?
YES
INTERCHANGE NO. 1 AND NO. 2 ENGINE PTIT INDICATOR REPEAT OPERATIONAL CHECK, TASK 8-5.3. IS SAME ENGINE INDICATOR FLAG OPERATING?
YES
REMOVE EMERGENCY POWER PANEL AND DISCONNECT PLUG 056P3. CHECK FOR GROUND BETWEEN PLUG 056P3 PIN 13 AND GROUND. IS GROUND PRESENT?
YES
REMOVE NO. 1 ENGINE PTIT INDICATOR AND DISCONNECT PLUG 056P1. CHECK FOR GROUND BETWEEN PLUG 056P1 PIN 6 AND GROUND. IS GROUND PRESENT?
YES
LOCATE GROUND ON WIRES W559-41-20, W639-298-20, W557-106-20, W557-105-20, OR W557-936-20 BETWEEN PLUG 056P1 AND 056P3 OR TB8. REPAIR OR REPLACE WIRES AS REQUIRED
NO
LOCATE SHORT ON WIRES W557-111-20, W557-90-20, W557-938-20, OR W557-937-20 BETWEEN PILOT'S AND COPILOT'S EMERG PWR LIGHTS AND TB8. REPAIR OR REPLACE WIRES AS REQUIRED
NO
INTERCHANGE NO. 1 AND NO. 2 ENGINE PTIT INDICATOR REPEAT OPERATIONAL CHECK, TASK 8-5.3. IS SAME ENGINE INDICATOR FLAG OPERATING?
NO
REPLACE INDICATOR ASSOCIATED WITH FLAG INDICATOR ON EMERGENCY POWER PANEL
NO
REPLACE NO. 1 ENGINE PTIT INDICATOR
YES
LOCATE GROUND ON WIRES W559-37-20, W639-64-20, W557-96-20, W557-939-20 OR W557-95-20 BETWEEN PLUG 056P2 AND PLUG 056P3 OR TB8. REPAIR OR REPLACE WIRES AS REQUIRED
YES
REMOVE EMERGENCY POWER PANEL AND DISCONNECT PLUG 056P3. CHECK FOR GROUND BETWEEN PLUG 056P3 PIN 1 AND GROUND. IS GROUND PRESENT?
YES
REMOVE NO. 2 ENGINE PTIT INDICATOR AND DISCONNECT PLUG 056P2. CHECK FOR GROUND BETWEEN PLUG 056P2 PIN 6 AND GROUND. IS GROUND PRESENT?
NO
LOCATE GROUND ON GRAY/BLK WIRE BETWEEN RELAY K2 AND RECEPTACLE ON EMERGENCY POWER PANEL REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR GROUND ON GRAY/BLK WIRE BETWEEN RELAY K2 AND RECEPTACLE ON EMERGENCY POWER PANEL. IS GROUND PRESENT?
NO
REPLACE NO. 2 ENGINE PTIT INDICATOR
NO
REPLACE EMERGENCY POWER PANEL
NO
CHECK FOR GROUND ON GRAY WIRE BETWEEN RELAY K1 AND RECEPTACLE ON EMERGENCY POWER PANEL IS GROUND PRESENT?
YES
LOCATE GROUND ON GRAY WIRE BETWEEN RELAY K1 AND RECEPTACLE ON EMERGENCY POWER PANEL REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE EMERGENCY POWER PANEL

END OF TASK

8-5.8 NO. 1 OR NO. 2 ENGINE EMERGENCY POWER FLAG INDICATOR WILL NOT RESET TO BLACK, FLAG RESET SWITCH AT REST

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

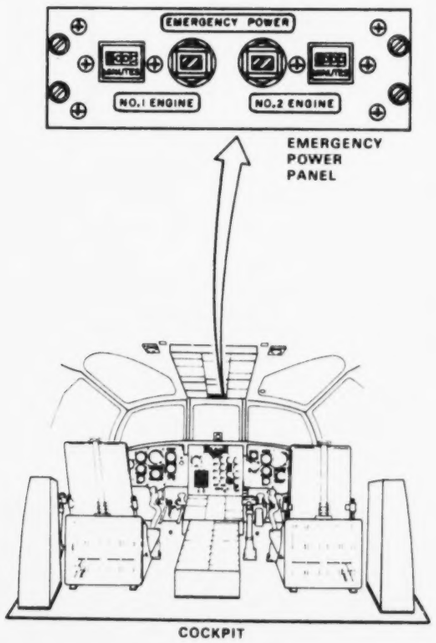
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power On
Nose Access Door Open



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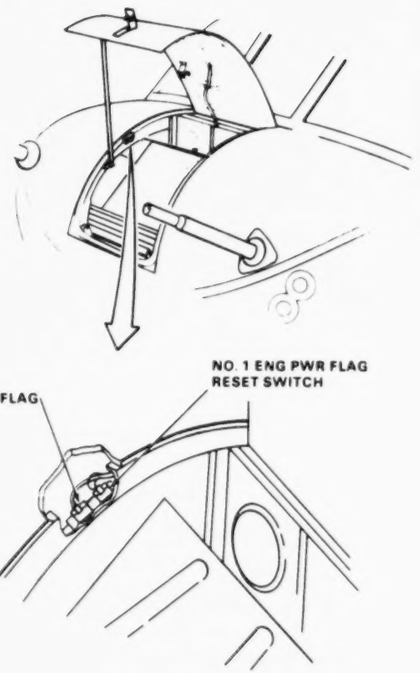

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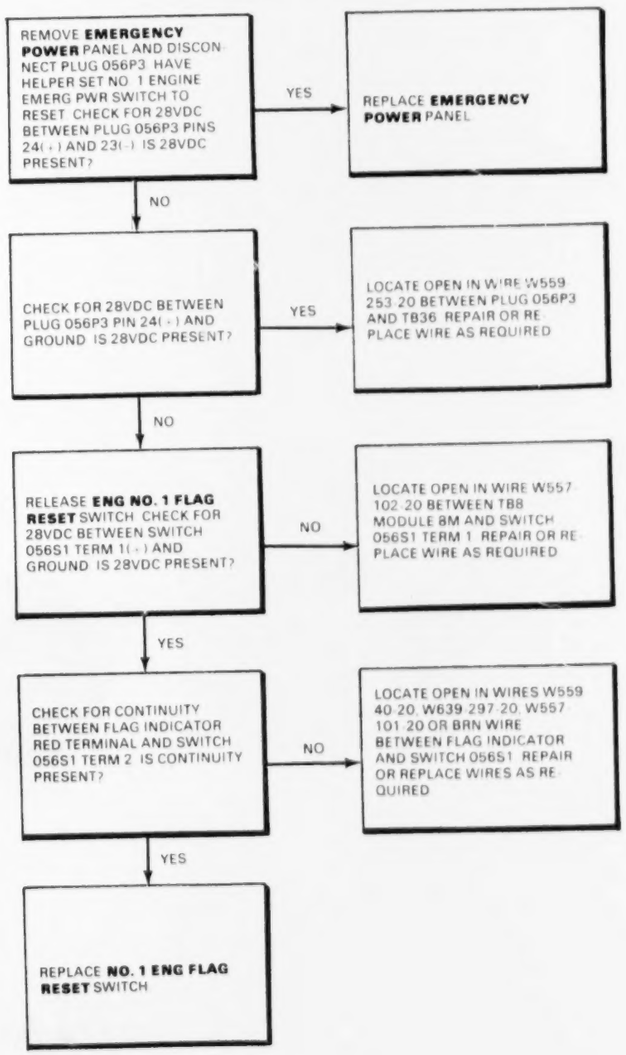
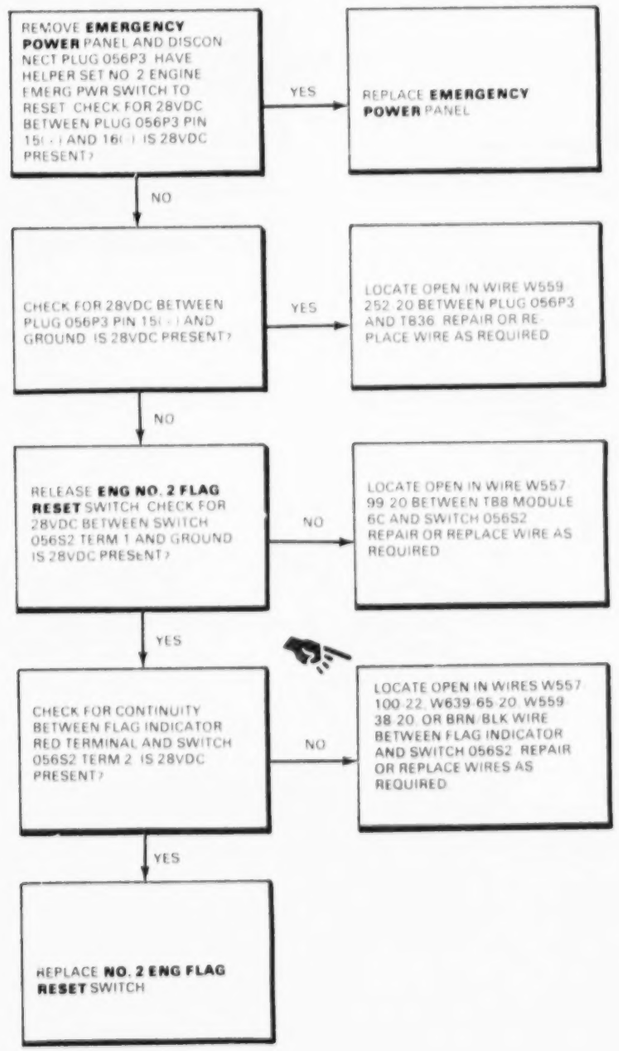
8-5.8 NO. 1 OR NO. 2 ENGINE EMERGENCY POWER FLAG INDICATOR WILL NOT RESET TO BLACK, FLAG RESET SWITCH AT RESET (Continued)

NO. 1 ENGINE EMERGENCY POWER FLAG INDICATOR WILL NOT RESET TO BLACK, ENGINE NO. 1 FLAG RESET SWITCH AT RESET


REMOVE EMERGENCY POWER PANEL AND DISCONNECT PLUG 056P3. HAVE HELPER SET NO. 1 ENGINE EMERG PWR SWITCH TO RESET. CHECK FOR 28VDC BETWEEN PLUG 056P3 PINS 24(+) AND 23(-) IS 28VDC PRESENT?
YES
REPLACE EMERGENCY POWER PANEL
NO
CHECK FOR 28VDC BETWEEN PLUG 056P3 PIN 24(+) AND GROUND IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W559 253 20 BETWEEN PLUG 056P3 AND T836. REPAIR OR REPLACE WIRE AS REQUIRED
NO
RELEASE ENG NO. 1 FLAG RESET SWITCH. CHECK FOR 28VDC BETWEEN SWITCH 056S1 TERM 1(+) AND GROUND IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W557 102 20 BETWEEN T88 MODULE 8M AND SWITCH 056S1 TERM 1. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR CONTINUITY BETWEEN FLAG INDICATOR RED TERMINAL AND SWITCH 056S1 TERM 2. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRES W559 40 20, W639 297 20, W557 101 20 OR BRN WIRE BETWEEN FLAG INDICATOR AND SWITCH 056S1. REPAIR OR REPLACE WIRES AS REQUIRED
YES
REPLACE NO. 1 ENG FLAG RESET SWITCH

NO. 2 EMERGENCY POWER FLAG INDICATOR WILL NOT RESET TO BLACK, ENGINE NO. 2 FLAG RESET SWITCH AT RESET


REMOVE EMERGENCY POWER PANEL AND DISCONNECT PLUG 056P3. HAVE HELPER SET NO. 2 ENGINE EMERG PWR SWITCH TO RESET. CHECK FOR 28VDC BETWEEN PLUG 056P3 PIN 15(+) AND 16(-) IS 28VDC PRESENT?
YES
REPLACE EMERGENCY POWER PANEL
NO
CHECK FOR 28VDC BETWEEN PLUG 056P3 PIN 15(+) AND GROUND IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W559 252 20 BETWEEN PLUG 056P3 AND T836. REPAIR OR REPLACE WIRE AS REQUIRED
NO
RELEASE ENG NO. 2 FLAG RESET SWITCH. CHECK FOR 28VDC BETWEEN SWITCH 056S2 TERM 1 AND GROUND IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W557 99 20 BETWEEN T88 MODULE 6C AND SWITCH 056S2. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR CONTINUITY BETWEEN FLAG INDICATOR RED TERMINAL AND SWITCH 056S2 TERM 2. IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRES W557 100 22, W639 65 20, W559 38 20, OR BRN BLK WIRE BETWEEN FLAG INDICATOR AND SWITCH 056S2. REPAIR OR REPLACE WIRES AS REQUIRED
YES
REPLACE NO. 2 ENG FLAG RESET SWITCH

END OF TASK

8-5.9 NO. 1 ENGINE EMERGENCY POWER TIMER DOES NOT OPERATE WHEN NO. 1 ENGINE PTIT INDICATION IS 890° C TO 910° C

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

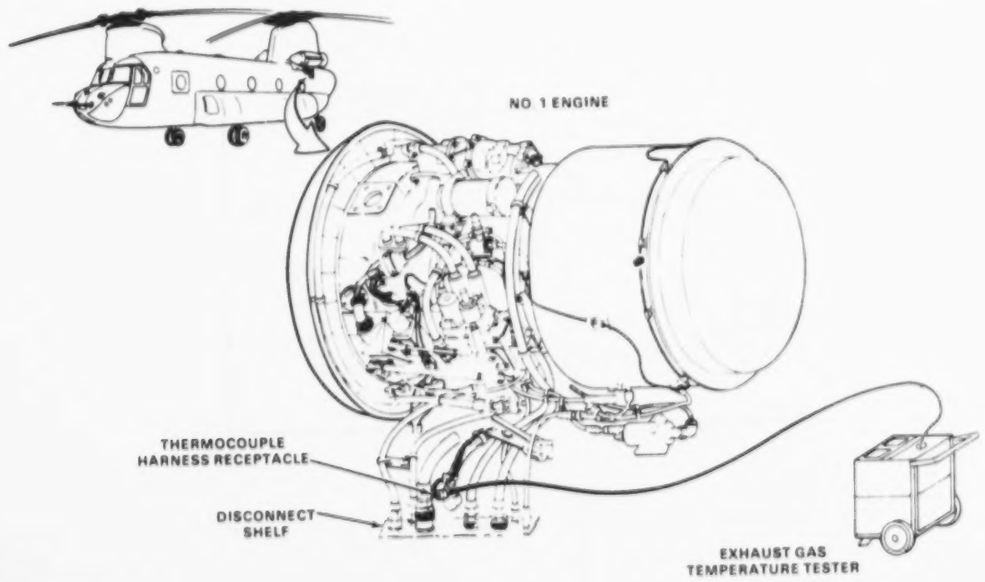
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter
Exhaust Gas Temperature Tester, Model
BH112JB-53,
NSN 4920-00-372-4593

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23
TM 55-4920-401-13&P

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power On
No. 1 Engine Work Platform Opened
No. 1 Engine Lower Access Panel Opened
Exhaust Temperature Tester Installed



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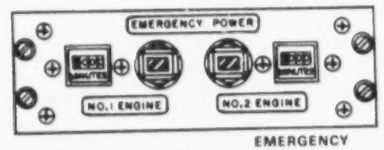
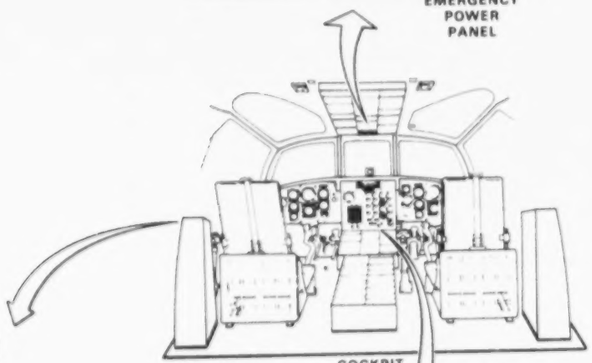
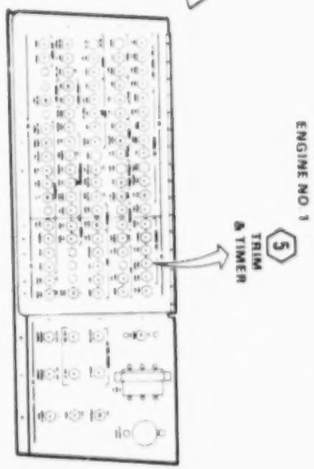
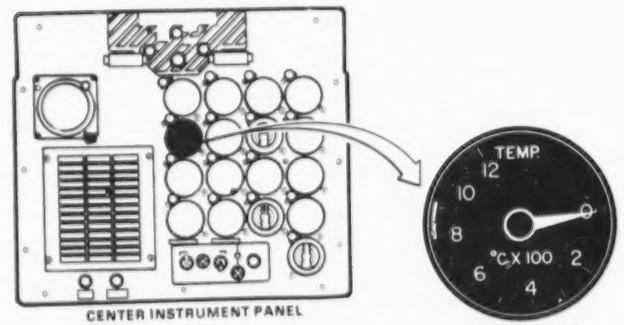


EMERGENCY POWER PANEL





NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT



CENTER INSTRUMENT PANEL

NO. 1 ENGINE PTIT INDICATOR

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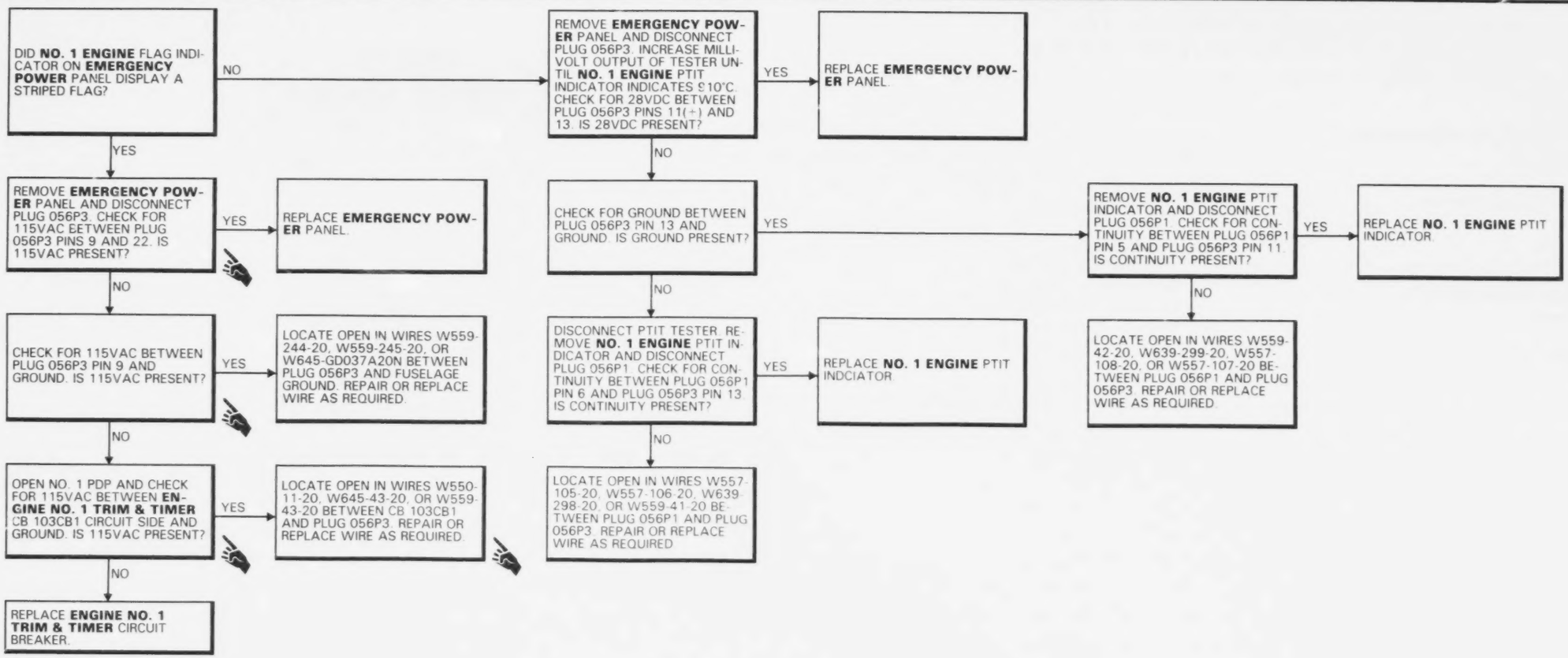
8-5.9 NO. 1 ENGINE EMERGENCY POWER TIMER DOES NOT OPERATE WHEN NO. 1 ENGINE PTIT INDICATION IS 890°C TO 910°C (Continued)


DID **NO. 1 ENGINE** FLAG INDICATOR ON **EMERGENCY POWER** PANEL DISPLAY A STRIPED FLAG?
NO
YES
REMOVE **EMERGENCY POWER** PANEL AND DISCONNECT PLUG 056P3. INCREASE MILLIVOLT OUTPUT OF TESTER UNTIL **NO. 1 ENGINE** PTIT INDICATOR INDICATES 910°C. CHECK FOR 28VDC BETWEEN PLUG 056P3 PINS 11(+) AND 13. IS 28VDC PRESENT?
YES
REPLACE **EMERGENCY POWER** PANEL.
NO
REMOVE **EMERGENCY POWER** PANEL AND DISCONNECT PLUG 056P3. CHECK FOR 115VAC BETWEEN PLUG 056P3 PINS 9 AND 22. IS 115VAC PRESENT?
YES
REPLACE **EMERGENCY POWER** PANEL.
NO
CHECK FOR GROUND BETWEEN PLUG 056P3 PIN 13 AND GROUND. IS GROUND PRESENT?
YES
REMOVE **NO. 1 ENGINE** PTIT INDICATOR AND DISCONNECT PLUG 056P1. CHECK FOR CONTINUITY BETWEEN PLUG 056P1 PIN 5 AND PLUG 056P3 PIN 11. IS CONTINUITY PRESENT?
YES
REPLACE **NO. 1 ENGINE** PTIT INDICATOR.
NO
LOCATE OPEN IN WIRES W559-42-20, W639-299-20, W557-108-20, OR W557-107-20 BETWEEN PLUG 056P1 AND PLUG 056P3. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR 115VAC BETWEEN PLUG 056P3 PIN 9 AND GROUND. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRES W559-244-20, W559-245-20, OR W645-GD037A20N BETWEEN PLUG 056P3 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
DISCONNECT PTIT TESTER. REMOVE **NO. 1 ENGINE** PTIT INDICATOR AND DISCONNECT PLUG 056P1. CHECK FOR CONTINUITY BETWEEN PLUG 056P1 PIN 6 AND PLUG 056P3 PIN 13. IS CONTINUITY PRESENT?
YES
REPLACE **NO. 1 ENGINE** PTIT INDICATOR.
NO
LOCATE OPEN IN WIRES W557-105-20, W557-106-20, W639-298-20, OR W559-41-20 BETWEEN PLUG 056P1 AND PLUG 056P3. REPAIR OR REPLACE WIRE AS REQUIRED.
OPEN NO. 1 PDP AND CHECK FOR 115VAC BETWEEN **ENGINE NO. 1 TRIM & TIMER** CB 103CB1 CIRCUIT SIDE AND GROUND. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRES W550-11-20, W645-43-20, OR W559-43-20 BETWEEN CB 103CB1 AND PLUG 056P3. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE **ENGINE NO. 1 TRIM & TIMER** CIRCUIT BREAKER.

END OF TASK

8-5.10 NO. 1 OR NO. 2 ENGINE EMERGENCY POWER FLAG INDICATOR REMAINS BLACK WHEN NO. 1 OR NO. 2 ENGINE PTIT INDICATION IS 890° TO 910°C

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

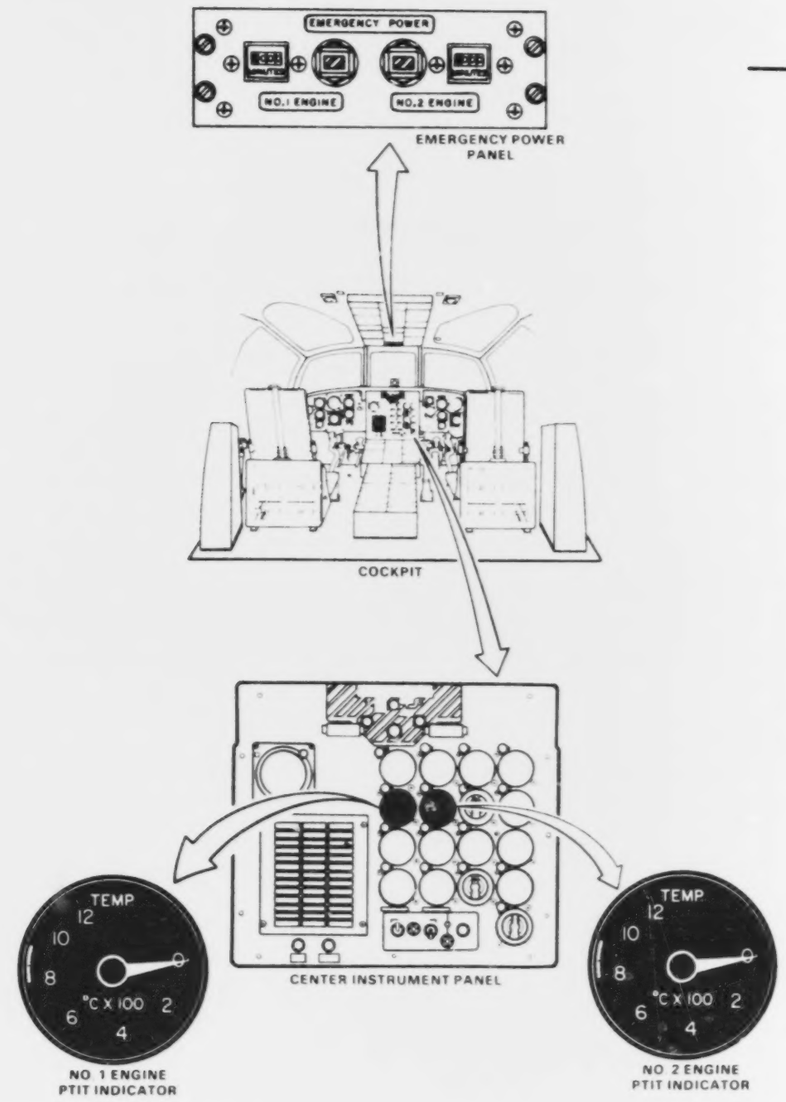
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power On



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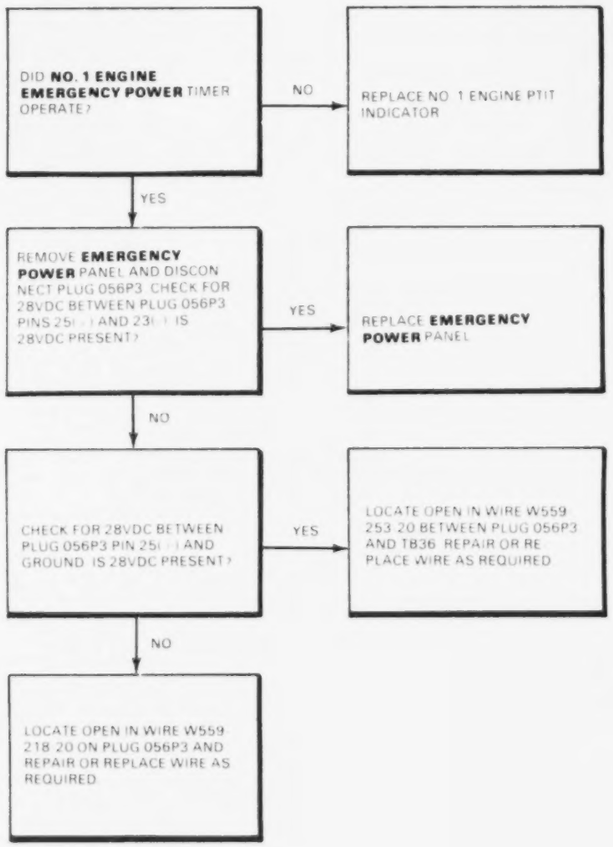
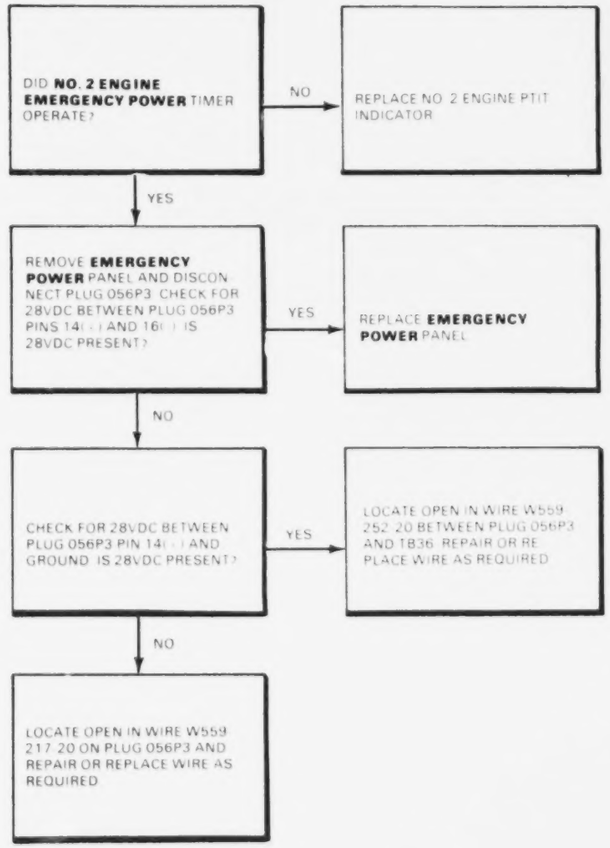
8-5.10 NO. 1 OR NO. 2 ENGINE EMERGENCY POWER FLAG INDICATOR REMAINS BLACK WHEN NO. 1 OR NO. 2 ENGINE PTIT INDICATION IS 890° TO 910° C (Continued)

NO. 1 ENGINE EMERGENCY POWER FLAG INDICATOR REMAINS BLACK WHEN NO. 1 ENGINE PTIT INDICATION IS 890° TO 910° C


DID NO. 1 ENGINE EMERGENCY POWER TIMER OPERATE?
NO
REPLACE NO. 1 ENGINE PTIT INDICATOR
YES
REMOVE EMERGENCY POWER PANEL AND DISCONNECT PLUG 056P3. CHECK FOR 28VDC BETWEEN PLUG 056P3 PINS 25( ) AND 23( ) IS 28VDC PRESENT?
YES
REPLACE EMERGENCY POWER PANEL
NO
CHECK FOR 28VDC BETWEEN PLUG 056P3 PIN 25( ) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W559 253 20 BETWEEN PLUG 056P3 AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W559 218 20 ON PLUG 056P3 AND REPAIR OR REPLACE WIRE AS REQUIRED

NO. 2 ENGINE EMERGENCY POWER FLAG INDICATOR REMAINS BLACK WHEN NO. 2 ENGINE PTIT INDICATION IS 890° TO 910° C


DID NO. 2 ENGINE EMERGENCY POWER TIMER OPERATE?
NO
REPLACE NO. 2 ENGINE PTIT INDICATOR
YES
REMOVE EMERGENCY POWER PANEL AND DISCONNECT PLUG 056P3. CHECK FOR 28VDC BETWEEN PLUG 056P3 PINS 14( ) AND 16( ) IS 28VDC PRESENT?
YES
REPLACE EMERGENCY POWER PANEL
NO
CHECK FOR 28VDC BETWEEN PLUG 056P3 PIN 14( ) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W559 252 20 BETWEEN PLUG 056P3 AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W559 217 20 ON PLUG 056P3 AND REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-5.11 PILOT'S AND COPILOT'S EMERGENCY POWER LIGHTS DO NOT COME ON WHEN NO. 1 OR NO. 2 ENGINE PTIT INDICATION IS 890° TO 910° C

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

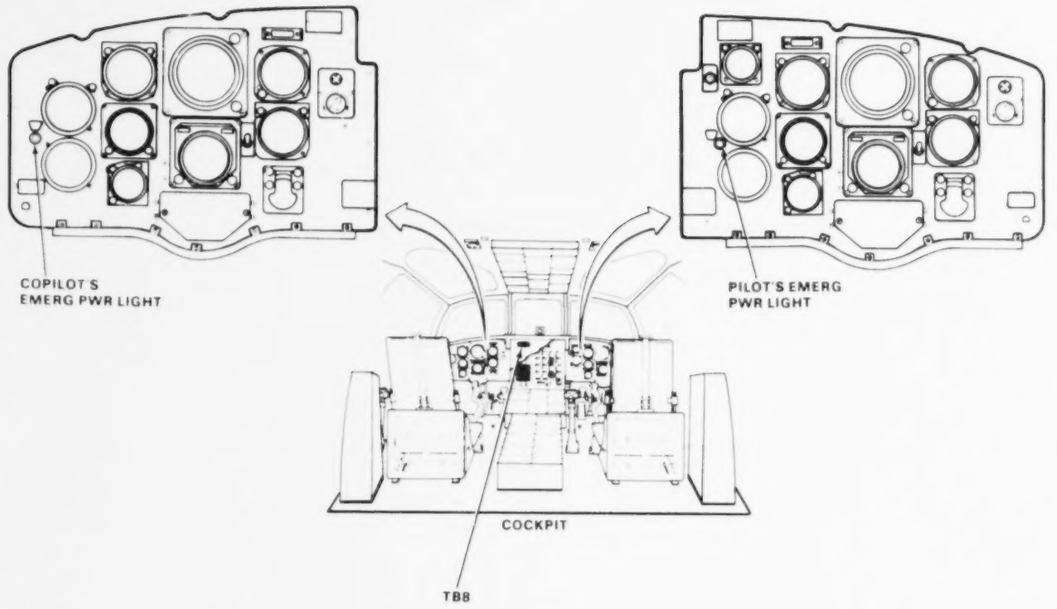
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power On



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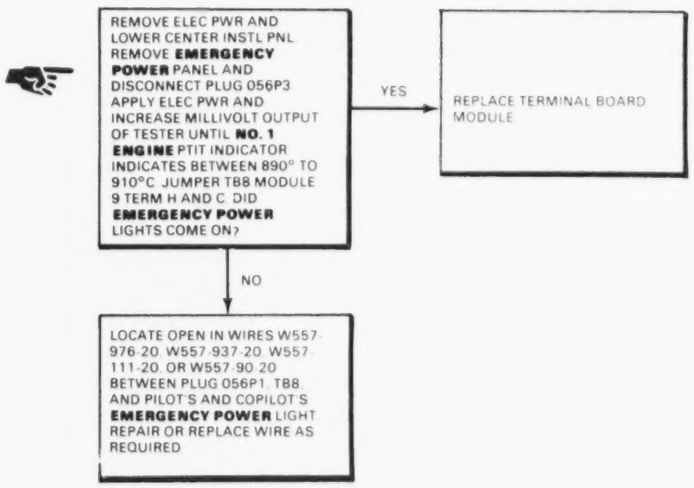
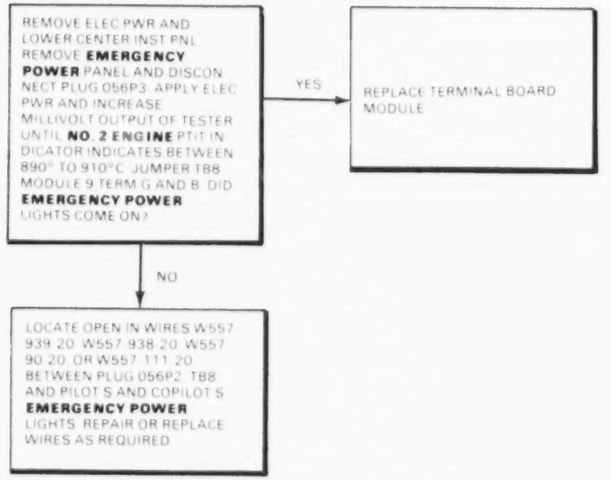
8-5.11 PILOT'S AND COPILOT'S EMERGENCY POWER LIGHTS DO NOT COME ON WHEN NO. 1 OR NO. 2 ENGINE PTIT INDICATION IS 890° TO 910° C (Continued)

PILOT'S AND COPILOT'S EMERGENCY POWER LIGHTS DO NOT COME ON WHEN NO. 1 ENGINE PTIT INDICATION IS 890° TO 910° C


REMOVE ELEC PWR AND LOWER CENTER INSTL PNL REMOVE **EMERGENCY POWER** PANEL AND DISCONNECT PLUG 056P3 APPLY ELEC PWR AND INCREASE MILLIVOLT OUTPUT OF TESTER UNTIL **NO. 1 ENGINE** PTIT INDICATOR INDICATES BETWEEN 890° TO 910°C JUMPER TB8 MODULE 9 TERM H AND C DID **EMERGENCY POWER** LIGHTS COME ON?
YES
REPLACE TERMINAL BOARD MODULE
NO
LOCATE OPEN IN WIRES W557-976-20, W557-937-20, W557-111-20, OR W557-90-20 BETWEEN PLUG 056P1, TB8 AND PILOT'S AND COPILOT'S **EMERGENCY POWER** LIGHT REPAIR OR REPLACE WIRE AS REQUIRED

PILOT'S AND COPILOT'S EMERGENCY POWER LIGHTS DO NOT COME ON WHEN NO. 2 ENGINE PTIT INDICATION IS 890° TO 910° C


REMOVE ELEC PWR AND LOWER CENTER INST PNL REMOVE **EMERGENCY POWER** PANEL AND DISCONNECT PLUG 056P3. APPLY ELEC PWR AND INCREASE MILLIVOLT OUTPUT OF TESTER UNTIL **NO. 2 ENGINE** PTIT INDICATOR INDICATES BETWEEN 890° TO 910°C. JUMPER TB8 MODULE 9 TERM G AND B. DID **EMERGENCY POWER** LIGHTS COME ON?
YES
REPLACE TERMINAL BOARD MODULE
NO
LOCATE OPEN IN WIRES W557-939-20, W557-938-20, W557-90-20, OR W557-111-20 BETWEEN PLUG 056P2, TB8 AND PILOT'S AND COPILOT'S **EMERGENCY POWER** LIGHTS. REPAIR OR REPLACE WIRES AS REQUIRED.

END OF TASK

8-5.12 NO. 2 ENGINE EMERGENCY POWER TIMER DOES NOT OPERATE WHEN NO. 2 ENGINE PTIT INDICATION IS 890° TO 910°C

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

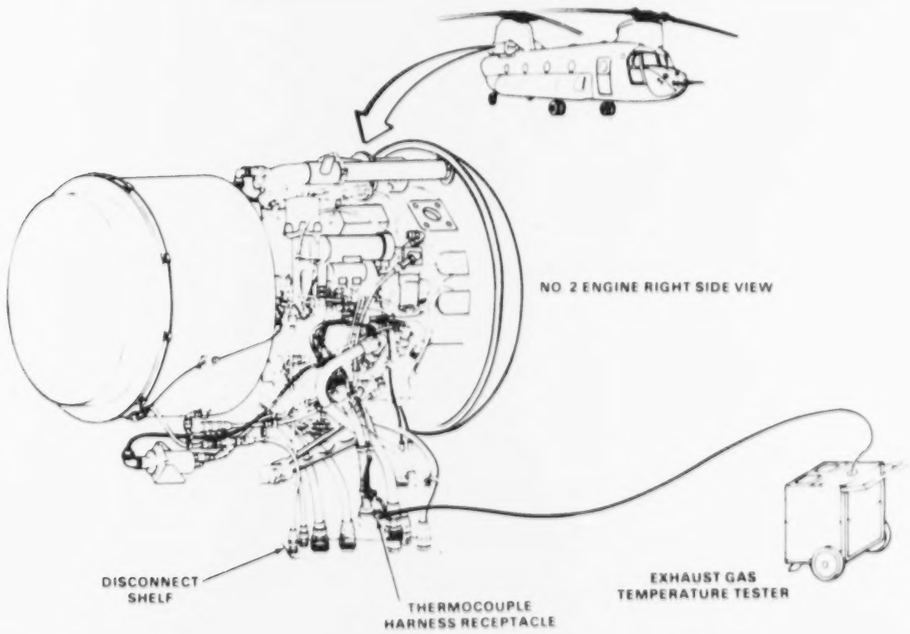
Multimeter
Exhaust Gas Temperature Tester, Model
BH112JB-53,
NSN 4920-00-372-4593

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23
TM 55-4920-401-13&P

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
No. 2 Engine Work Platform Open
No. 2 Engine Lower Access Panel Opened
Exhaust Gas Temperature Tester Installed



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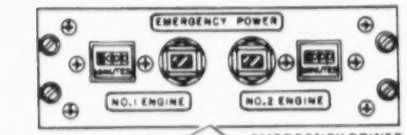
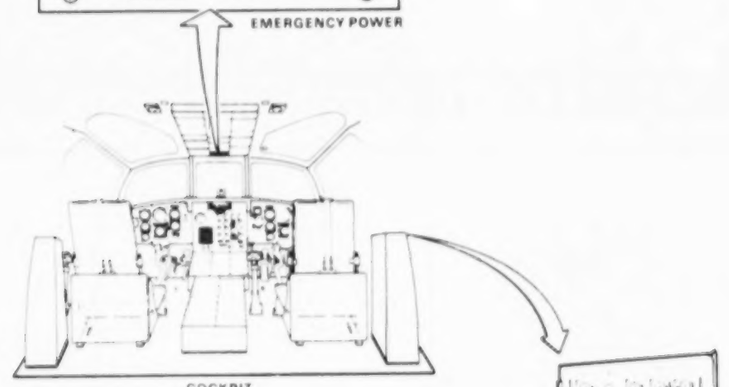
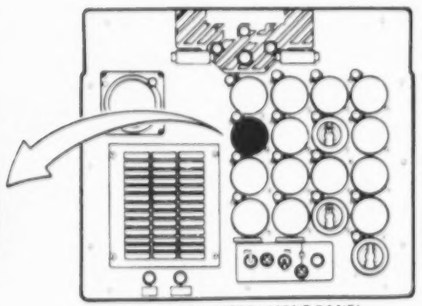
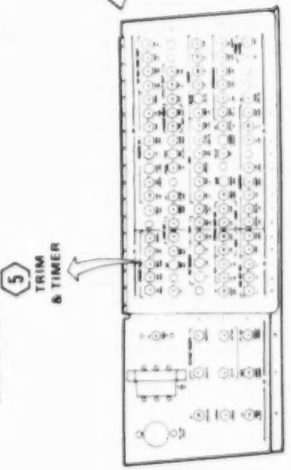




NO 2 ENGINE PTIT INDICATOR



CENTER INSTRUMENT PANEL



NO 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT

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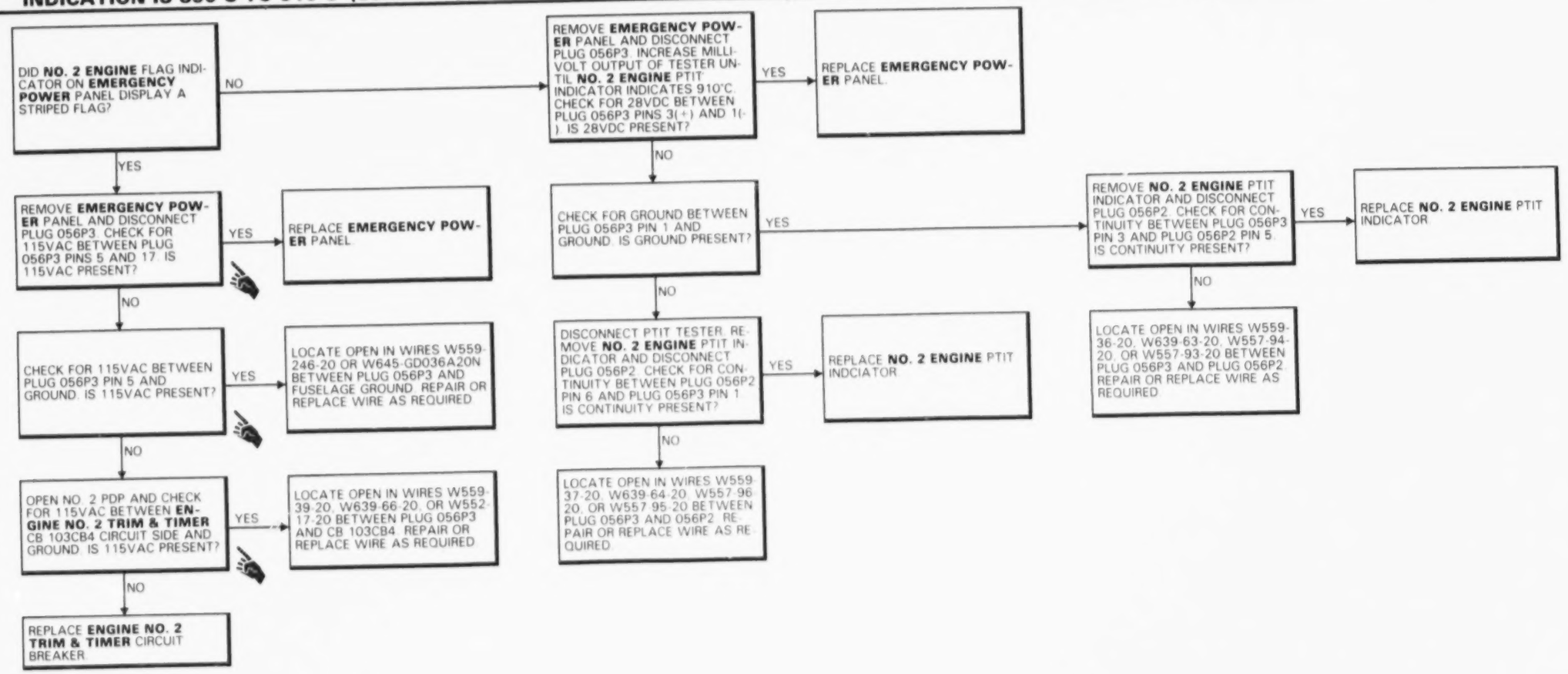
8-5.12 NO. 2 ENGINE EMERGENCY POWER TIMER DOES NOT OPERATE WHEN NO. 2 ENGINE PTIT INDICATION IS 890°C TO 910°C (Continued)

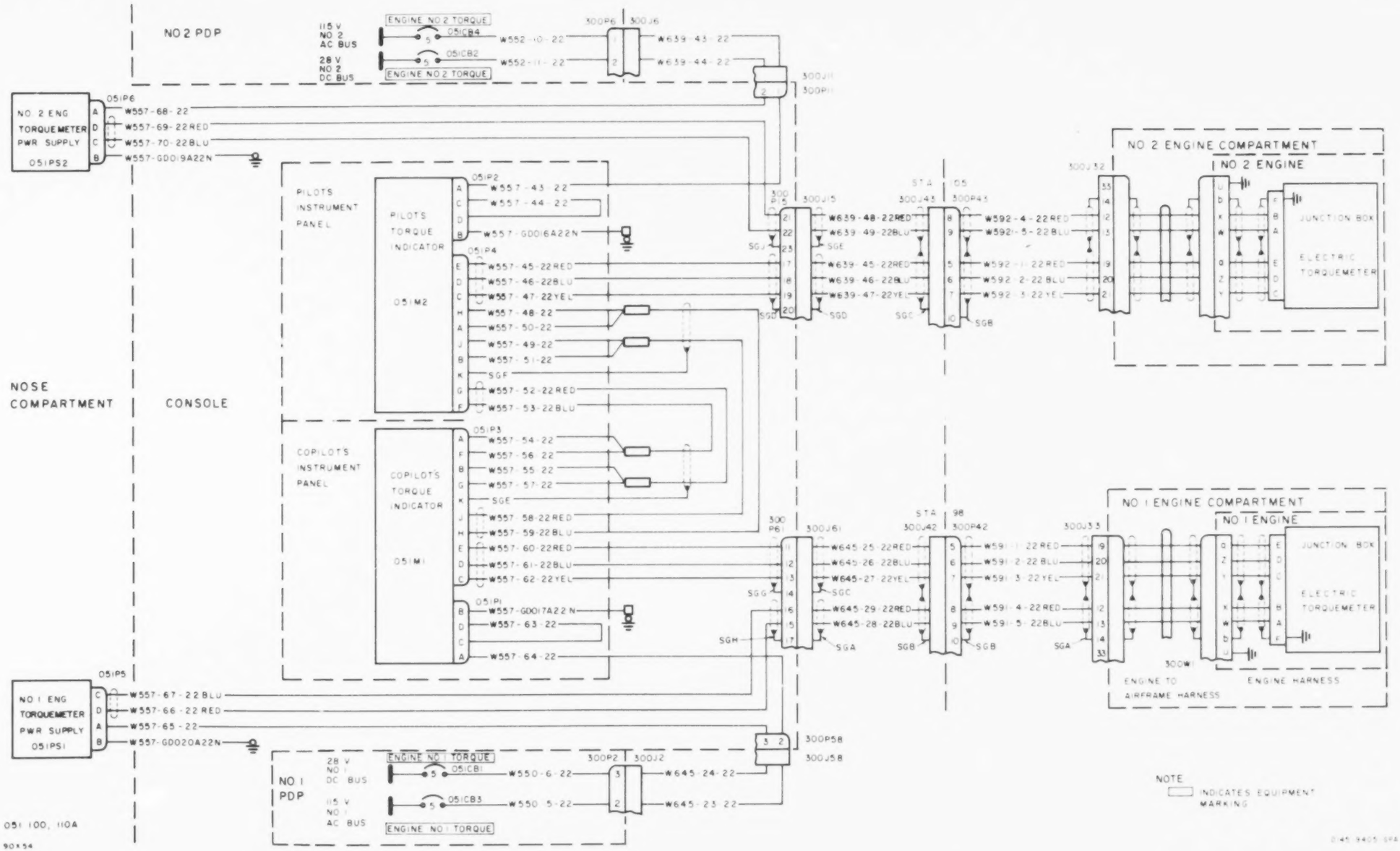

DID **NO. 2 ENGINE** FLAG INDICATOR ON **EMERGENCY POWER** PANEL DISPLAY A STRIPED FLAG?
NO
YES
REMOVE **EMERGENCY POWER** PANEL AND DISCONNECT PLUG 056P3. CHECK FOR 115VAC BETWEEN PLUG 056P3 PINS 5 AND 17. IS 115VAC PRESENT?
YES
REPLACE **EMERGENCY POWER** PANEL.
NO
CHECK FOR 115VAC BETWEEN PLUG 056P3 PIN 5 AND GROUND. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRES W559-246-20 OR W645-GD036A20N BETWEEN PLUG 056P3 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
OPEN NO. 2 PDP AND CHECK FOR 115VAC BETWEEN **ENGINE NO. 2 TRIM & TIMER** CB 103CB4 CIRCUIT SIDE AND GROUND. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRES W559-39-20, W639-66-20, OR W552-17-20 BETWEEN PLUG 056P3 AND CB 103CB4. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE **ENGINE NO. 2 TRIM & TIMER** CIRCUIT BREAKER
REMOVE **EMERGENCY POWER** PANEL AND DISCONNECT PLUG 056P3. INCREASE MILLIVOLT OUTPUT OF TESTER UNTIL **NO. 2 ENGINE** PTIT INDICATOR INDICATES 910°C. CHECK FOR 28VDC BETWEEN PLUG 056P3 PINS 3(+) AND 1(-). IS 28VDC PRESENT?
YES
REPLACE **EMERGENCY POWER** PANEL.
NO
CHECK FOR GROUND BETWEEN PLUG 056P3 PIN 1 AND GROUND. IS GROUND PRESENT?
YES
REMOVE **NO. 2 ENGINE** PTIT INDICATOR AND DISCONNECT PLUG 056P2. CHECK FOR CONTINUITY BETWEEN PLUG 056P3 PIN 3 AND PLUG 056P2 PIN 5. IS CONTINUITY PRESENT?
YES
REPLACE **NO. 2 ENGINE** PTIT INDICATOR.
NO
LOCATE OPEN IN WIRES W559-36-20, W639-63-20, W557-94-20, OR W557-93-20 BETWEEN PLUG 056P3 AND PLUG 056P2. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
DISCONNECT PTIT TESTER. REMOVE **NO. 2 ENGINE** PTIT INDICATOR AND DISCONNECT PLUG 056P2. CHECK FOR CONTINUITY BETWEEN PLUG 056P2 PIN 6 AND PLUG 056P3 PIN 1. IS CONTINUITY PRESENT?
YES
REPLACE **NO. 2 ENGINE** PTIT INDICATOR.
NO
LOCATE OPEN IN WIRES W559-37-20, W639-64-20, W557-96-20, OR W557-95-20 BETWEEN PLUG 056P3 AND 056P2. REPAIR OR REPLACE WIRE AS REQUIRED.

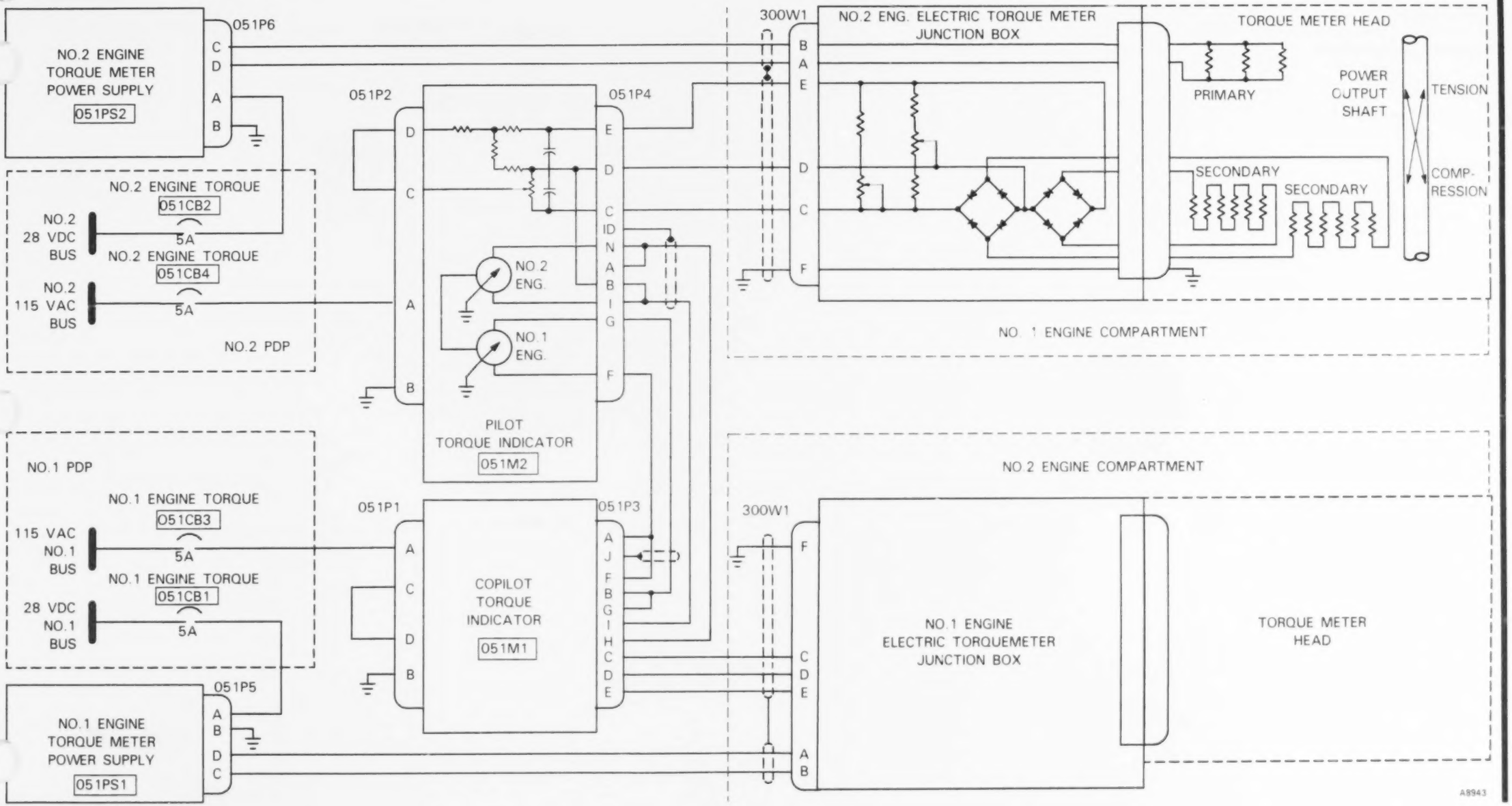
END OF TASK

8-6 TORQUE INDICATING SYSTEM

8-6 TORQUE INDICATING SYSTEM

8-6.1 TORQUE INDICATING SYSTEM WIRING DIAGRAM




NO.2 ENGINE TORQUE METER POWER SUPPLY
051PS2
051P6
C
D
A
B
NO.2 ENGINE TORQUE
051CB2
NO.2 28 VDC BUS
5A
NO.2 ENGINE TORQUE
051CB4
NO.2 115 VAC BUS
5A
NO.2 PDP
051P2
051P4
D
C
A
B
E
D
C
IDNABIG
F
NO.2 ENG.
NO.1 ENG.
PILOT TORQUE INDICATOR
051M2
300W1
B
A
E
D
C
F
NO.2 ENG. ELECTRIC TORQUE METER JUNCTION BOX
TORQUE METER HEAD
PRIMARY
POWER OUTPUT SHAFT
TENSION
COMP-RESSION
SECONDARY
SECONDARY
NO. 1 ENGINE COMPARTMENT
NO.1 PDP
NO.1 ENGINE TORQUE
051CB3
115 VAC NO.1 BUS
5A
NO.1 ENGINE TORQUE
051CB1
28 VDC NO.1 BUS
5A
051P1
051P3
A
C
D
B
COPILOT TORQUE INDICATOR
051M1
AJFBGIHCDE
NO.2 ENGINE COMPARTMENT
300W1
F
C
D
E
A
B
NO.1 ENGINE ELECTRIC TORQUEMETER JUNCTION BOX
TORQUE METER HEAD
NO.1 ENGINE TORQUE METER POWER SUPPLY
051PS1
051P5
A
B
D
C
A8943

END OF TASK

8-6.2 TORQUE INDICATING SYSTEM VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

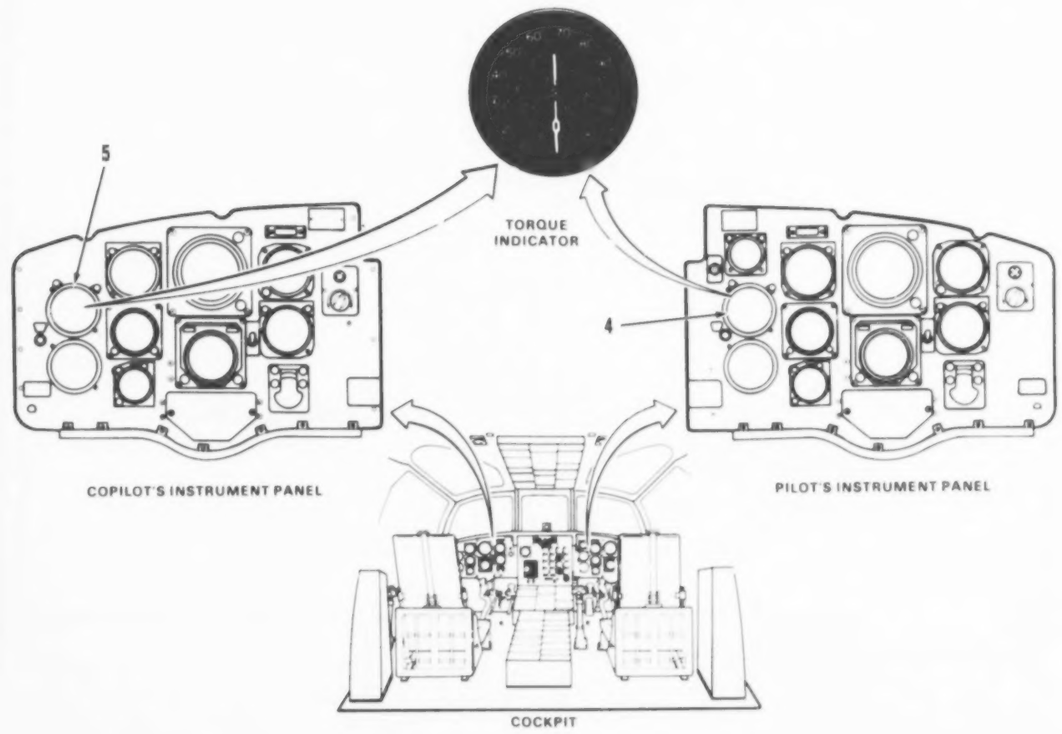
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

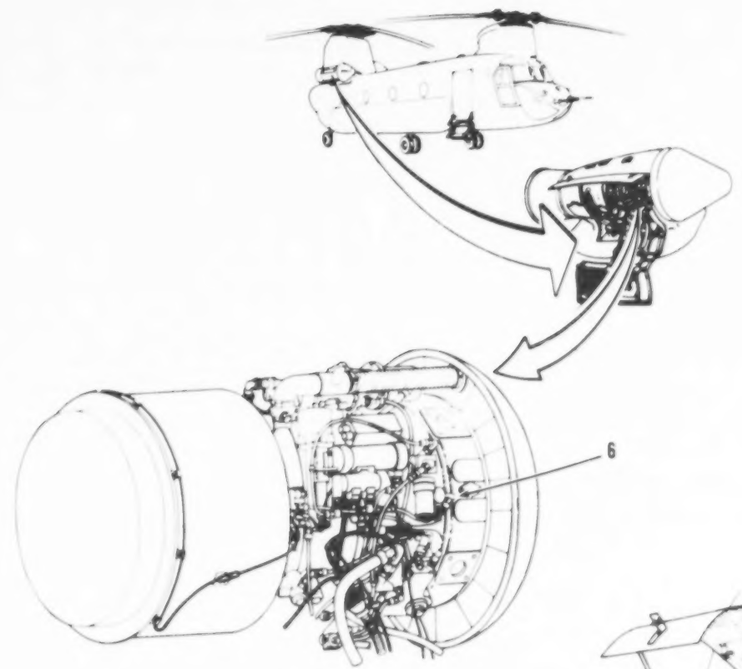
Materials:
None

Personnel Required:
68F10 Aircraft Electrician

References:
TM 55-1520-240-23

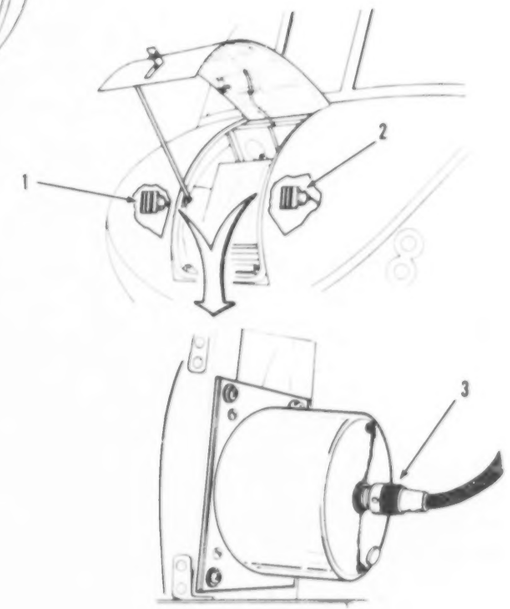
Equipment Conditions:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Nose Access Door Open
No. 1 Engine Work Platform Open
No. 1 Engine Upper and Lower Access Doors Open
No. 2 Engine Work Platform Open
No. 2 Engine Upper and Lower Access Doors Open





NO. 2 ENGINE RIGHT SIDE SHOWN

NO. 1 ENGINE RIGHT SIDE SAME



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8-6.2 TORQUE INDICATING SYSTEM VISUAL CHECK (Continued)

TASK	RESULT
1 **Check pilot's torquemeter power supply (1).**	If torquemeter power supply (1) is loose or damaged, tighten or replace it as required. If connector is loose or damaged, or wiring to connector is damaged, tighten or replace connector or repair or replace wire as required.
2 **Check copilot's torquemeter power supply (2).**	If torquemeter power supply (2) is loose or damaged, tighten or replace it as required. If connector (3) is loose or damaged, tighten or replace it as required. If wires to connector (3) are damaged, repair or replace them as required.
3 **Check pilot's torquemeter indicator (4).**	If torquemeter indicator (3) is loose or damaged, tighten or replace it as required.
4 **Check copilot's torquemeter indicator (5).**	If torquemeter indicator (4) is loose or damaged, tighten or replace it as required.
5 **Check No. 1 engine torquemeter junction box (6).**	If No. 1 engine torquemeter junction box is loose or damaged, tighten or replace it as required. If connector to junction box is loose or damaged, tighten or replace it as required. If wires to junction box (6) connector are damaged, repair or replace them as required.
6 **Check No. 2 engine torquemeter junction box (6).**	If No. 2 engine torquemeter junction box is loose or damaged, tighten or replace it as required. If connector to junction box is loose or damaged, tighten or replace it as required. If wires to junction box (6) connector are damaged, repair or replace them as required.

FOLLOW-ON MAINTENANCE

TM 55-1520-240-23
Nose Access Door Closed
No. 1 Engine Work Platform Closed
No. 1 Engine Upper and Lower Access Door Closed
No. 2 Engine Work Platform Closed
No. 2 Engine Upper and Lower Access Door Closed

8-6.3 TORQUE INDICATING SYSTEM OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

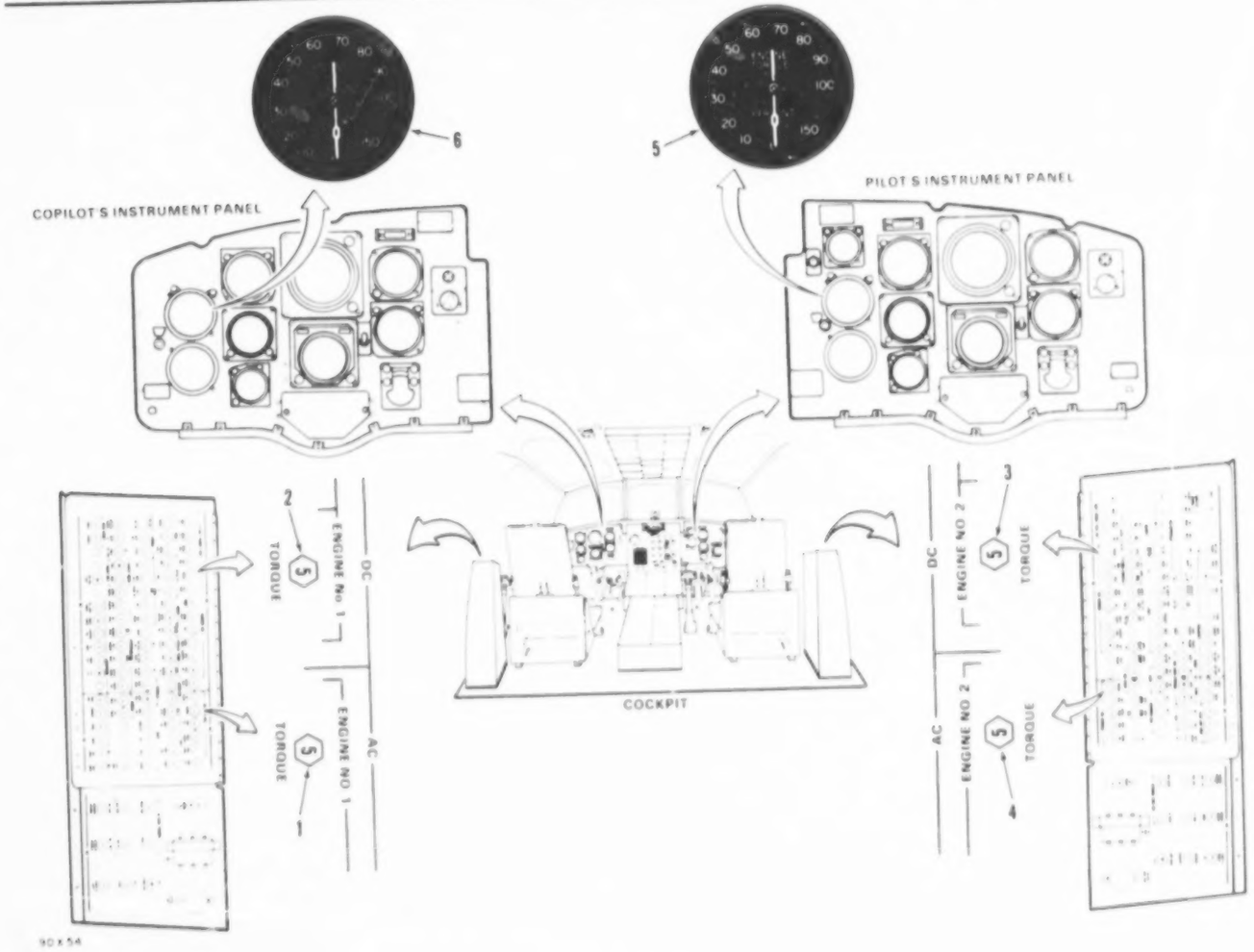
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

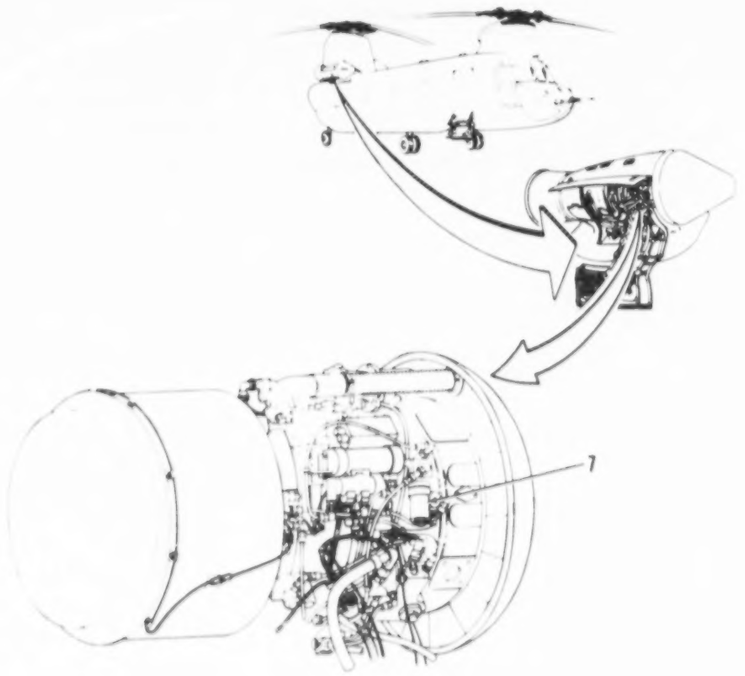
Materials:
None

Personnel Required:
Aircraft Electrician (2)
Army Rotary Wing Aviator (2)

References:
TM 55-1520-240-10
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power On
Torque Indicating System Visual Check Performed (Task 8-6.2)





NO 2 ENGINE RIGHT SIDE SHOWN
NO 1 ENGINE RIGHT SIDE SAME

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8-6.3 TORQUE INDICATING SYSTEM OPERATIONAL CHECK (Continued)

TASK	RESULT
1. **Check** that **ENGINE NO. 1 AC TORQUE circuit breaker (1)** is **closed.**	If **ENGINE NO. 1 AC TORQUE** circuit breaker (1) is open, close it. If it opens again, go to task 8-6.4.
2. **Check** that **ENGINE NO. 1 DC TORQUE circuit breaker (2)** is **closed.**	If **ENGINE NO. 1 DC TORQUE** circuit breaker (2) is open, close it. If it opens again, go to task 8-6.5.
3. **Check** that **ENGINE NO. 2 AC TORQUE circuit breaker (3)** is **closed.**	If **ENGINE NO. 2 AC TORQUE** circuit breaker (3) is open, close it. If it opens again, go to task 8-6.4.
4. **Check** that **ENGINE NO. 2 DC TORQUE circuit breaker (4)** is **closed.**	If **ENGINE NO. 2 DC TORQUE** circuit breaker (4) is open, close it. If it opens again, go to task 8-6.5.
5. **Check No. 2 pointer on pilot's and co-pilot's indicator (5 and 6).** **NOTE** If pointer is spinning, have helper manually turn rotor blades until spinning stops. If spinning continues after one revolution of the blades, go to next step.	No. 2 pointer on both indicators (5 and 6) shall be below 10%. If not, adjust torque indicator zero. (Ref TM 55-1520-240-23.)
6. **Check No. 1 pointer on pilot's and copilot's indicators (5 and 6).** **NOTE** If pointer is spinning, have helper manually turn rotor blades until spinning stops. If spinning continues after one revolution of the blades, go to next step.	No. 1 pointer on both indicators (5 and 6) shall be below 10%. If not, adjust torque indicator zero. (Ref TM 55-1520-240-23.)
7. Have pilot **start both engines and stabilize rotors** at **ground idle.**	
8. Have pilot perform **TORQUE REQUIRED to HOVER CHECK. (Ref TM 55-1520-240-23.)**	
9. **Check No. 1 pointer on pilot's and co-pilot's indicators (5 and 6).**	No. 1 pointer on both indicators (5 and 6) shall indicate required torque. If not, go to task 8-6.6. If No. 1 pointer on both indicators (5 and 6) rotate clockwise or counterclockwise continuously, replace No. 1 engine torquemeter junction box (7). No. 2 pointer on both indicators (5 and 6) shall indicate required torque. If not, go to task 8-6.7. If No. 2 pointer on both indicators (5 and 6) rotate continuously, replace No. 2 engine torquemeter junction box (7).
10. Have pilot shut down both engines.	

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

END OF TASK

8-6.4 NO. 1 OR NO. 2 ENGINE TORQUE AC CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

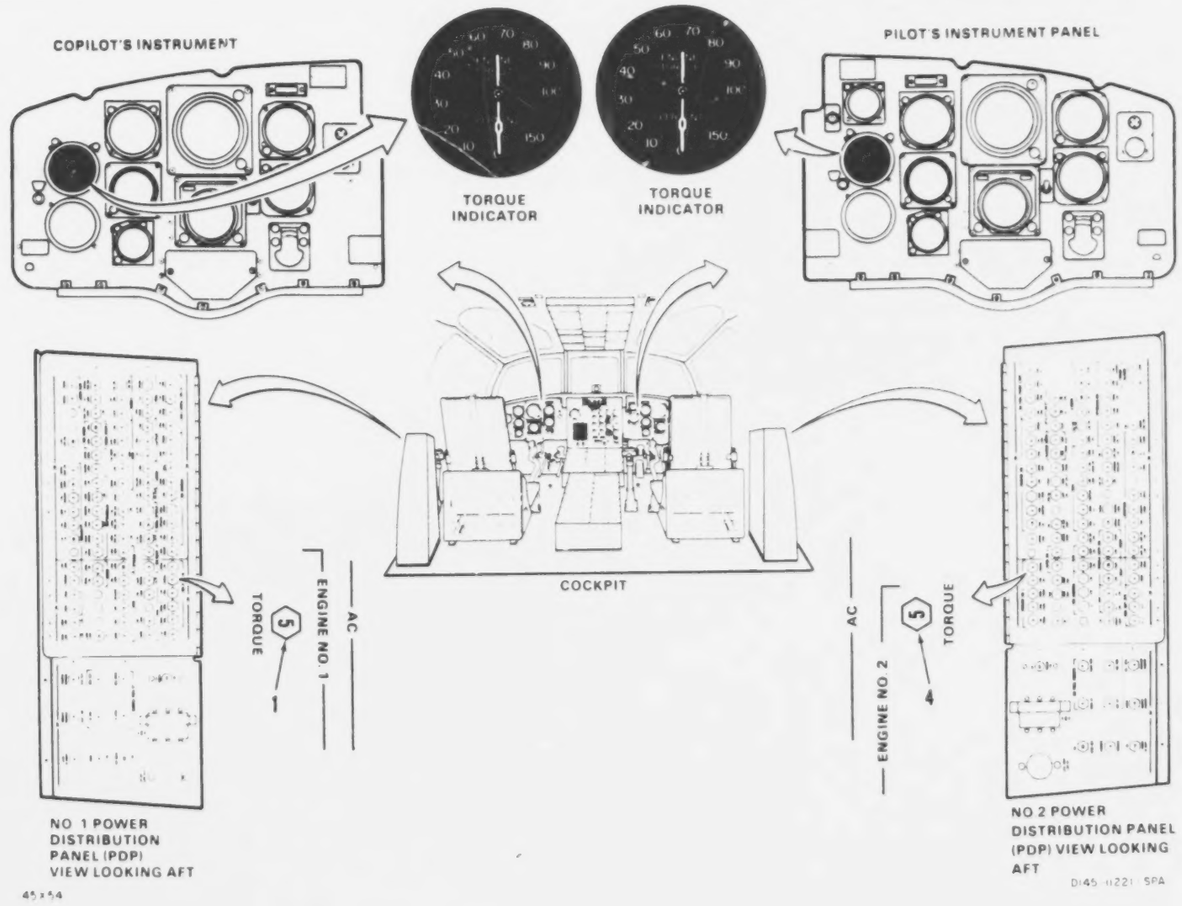
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



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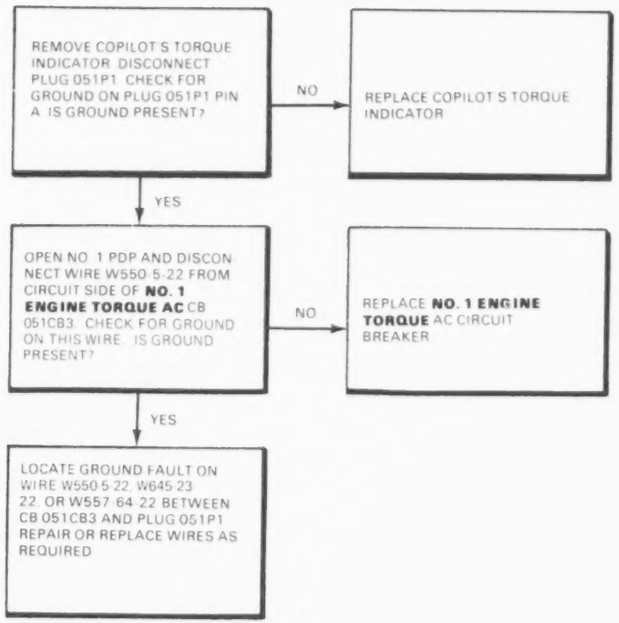
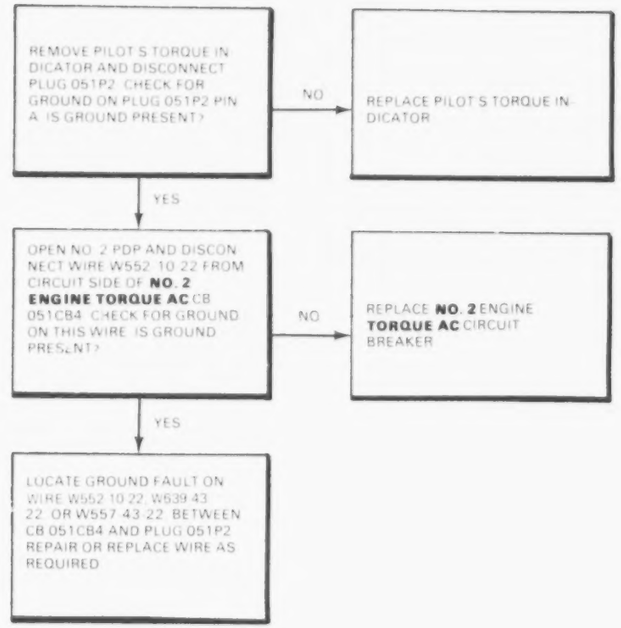
8-6.4 NO. 1 OR NO. 2 ENGINE TORQUE AC CIRCUIT BREAKER WILL NOT STAY CLOSED (Continued)

NO. 1 ENGINE TORQUE AC CIRCUIT BREAKER WILL NOT STAY CLOSED.


REMOVE COPILOT S TORQUE INDICATOR. DISCONNECT PLUG 051P1. CHECK FOR GROUND ON PLUG 051P1 PIN A. IS GROUND PRESENT?
NO
REPLACE COPILOT S TORQUE INDICATOR
YES
OPEN NO. 1 PDP AND DISCONNECT WIRE W550-5-22 FROM CIRCUIT SIDE OF **NO. 1 ENGINE TORQUE AC** CB 051CB3. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
REPLACE **NO. 1 ENGINE TORQUE** AC CIRCUIT BREAKER
YES
LOCATE GROUND FAULT ON WIRE W550-5-22, W645-23-22, OR W557-64-22 BETWEEN CB 051CB3 AND PLUG 051P1. REPAIR OR REPLACE WIRES AS REQUIRED

NO. 2 ENGINE TORQUE AC CIRCUIT BREAKER WILL NOT STAY CLOSED.


REMOVE PILOT S TORQUE INDICATOR AND DISCONNECT PLUG 051P2. CHECK FOR GROUND ON PLUG 051P2 PIN A. IS GROUND PRESENT?
NO
REPLACE PILOT S TORQUE INDICATOR
YES
OPEN NO. 2 PDP AND DISCONNECT WIRE W552-10-22 FROM CIRCUIT SIDE OF **NO. 2 ENGINE TORQUE AC** CB 051CB4. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
REPLACE **NO. 2** ENGINE **TORQUE AC** CIRCUIT BREAKER
YES
LOCATE GROUND FAULT ON WIRE W552-10-22, W639-43-22, OR W557-43-22 BETWEEN CB 051CB4 AND PLUG 051P2. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-6.5 NO. 1 OR NO. 2 ENGINE TORQUE DC CIRCUIT BREAKERS WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

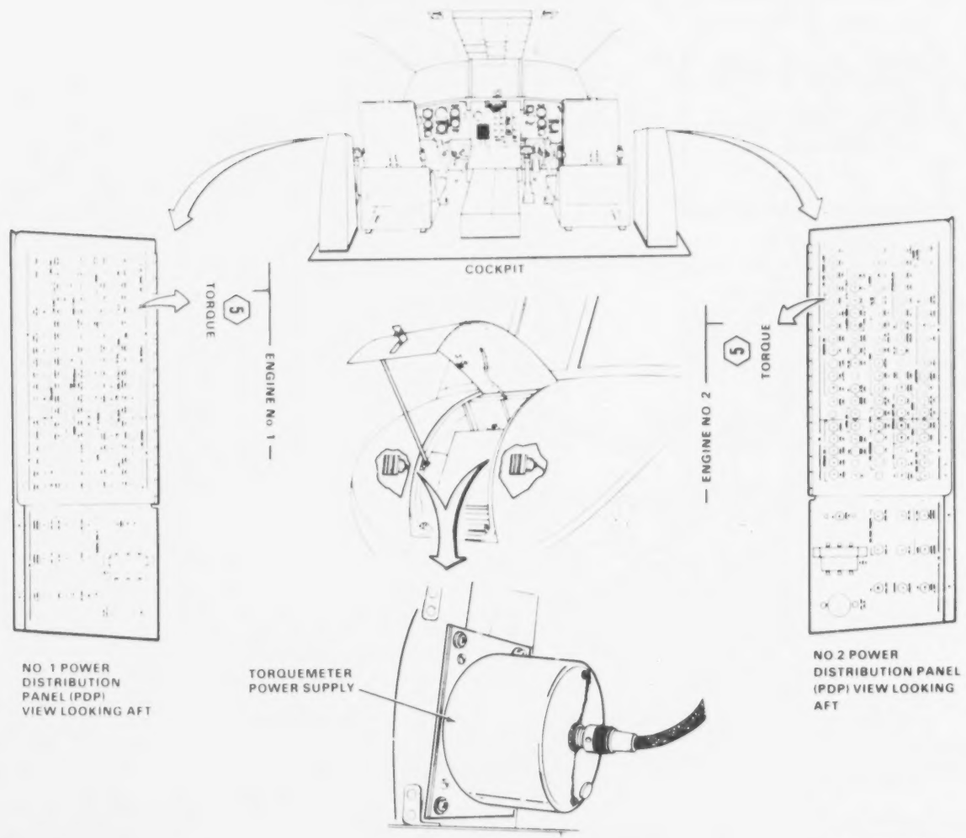
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Workstand

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Nose Access Door Open



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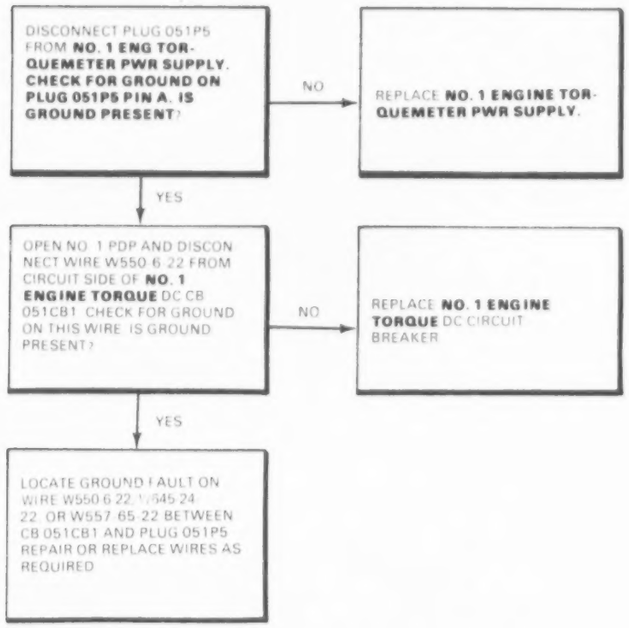
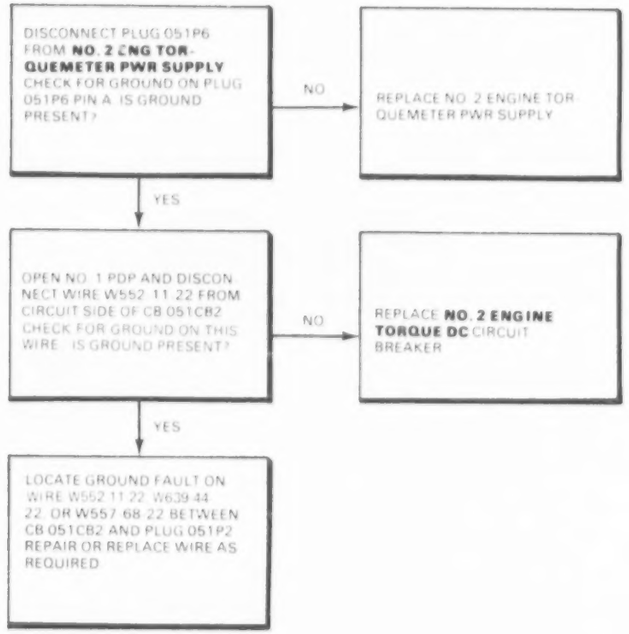
8-6.5 NO. 1 OR NO. 2 ENGINE TORQUE DC CIRCUIT BREAKERS WILL NOT STAY CLOSED (Continued)

NO. 1 ENGINE TORQUE DC CIRCUIT BREAKER WILL NOT STAY CLOSED


DISCONNECT PLUG 051P5 FROM **NO. 1 ENG TORQUEMETER PWR SUPPLY**. CHECK FOR GROUND ON PLUG 051P5 PIN A. IS GROUND PRESENT?
NO
REPLACE **NO. 1 ENGINE TORQUEMETER PWR SUPPLY**.
YES
OPEN NO. 1 PDP AND DISCONNECT WIRE W550-6-22 FROM CIRCUIT SIDE OF **NO. 1 ENGINE TORQUE** DC CB 051CB1. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
REPLACE **NO. 1 ENGINE TORQUE** DC CIRCUIT BREAKER
YES
LOCATE GROUND FAULT ON WIRE W550-6-22, W645-24-22, OR W557-65-22 BETWEEN CB 051CB1 AND PLUG 051P5. REPAIR OR REPLACE WIRES AS REQUIRED

NO. 2 ENGINE TORQUE DC CIRCUIT BREAKER WILL NOT STAY CLOSED

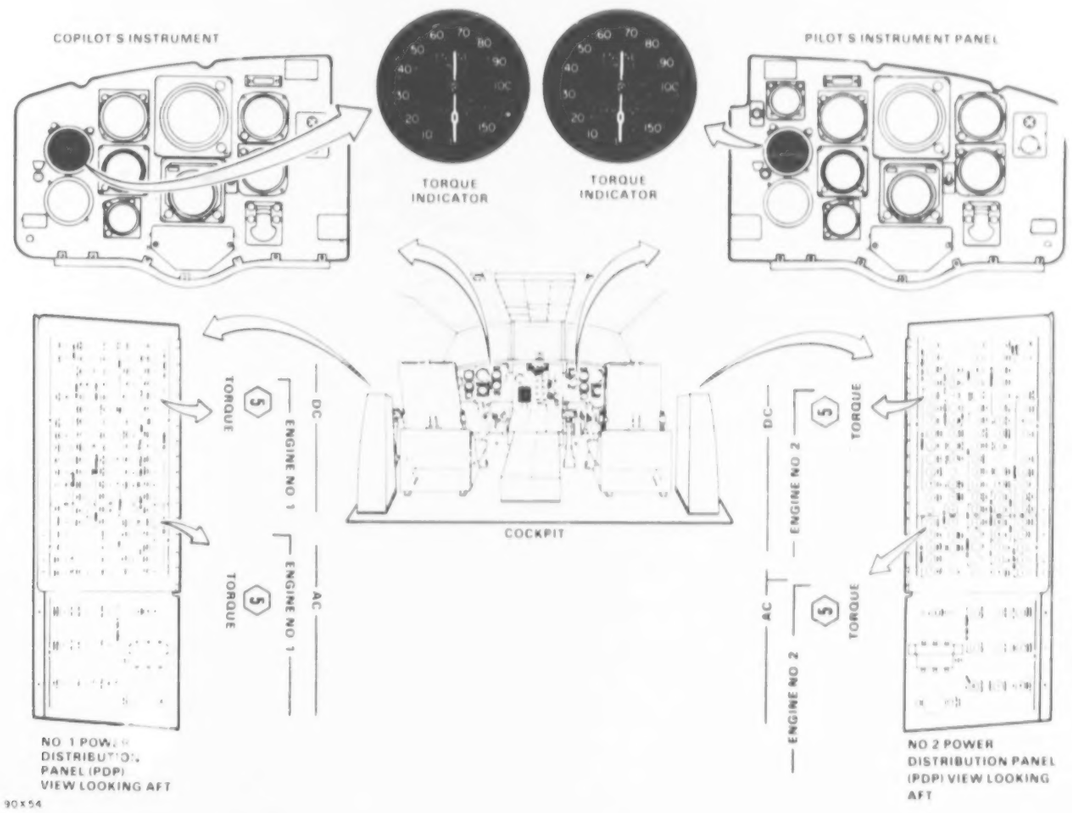

DISCONNECT PLUG 051P6 FROM **NO. 2 ENG TORQUEMETER PWR SUPPLY** CHECK FOR GROUND ON PLUG 051P6 PIN A. IS GROUND PRESENT?
NO
REPLACE NO. 2 ENGINE TORQUEMETER PWR SUPPLY
YES
OPEN NO. 1 PDP AND DISCONNECT WIRE W552-11-22 FROM CIRCUIT SIDE OF CB 051CB2. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
REPLACE **NO. 2 ENGINE TORQUE DC** CIRCUIT BREAKER
YES
LOCATE GROUND FAULT ON WIRE W552-11-22, W639-44-22, OR W557-68-22 BETWEEN CB 051CB2 AND PLUG 051P2. REPAIR OR REPLACE WIRE AS REQUIRED

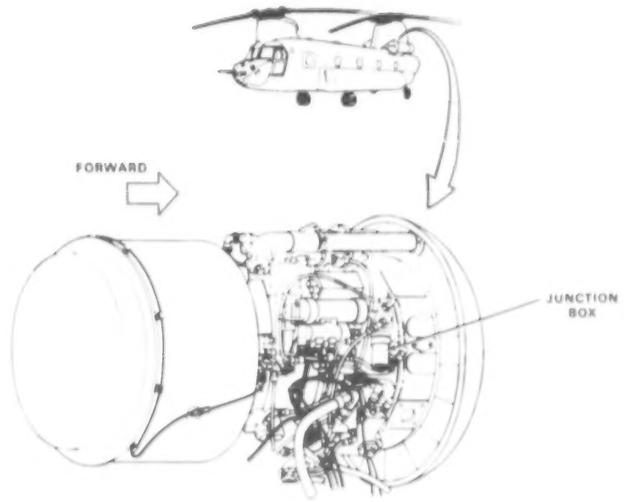
END OF TASK

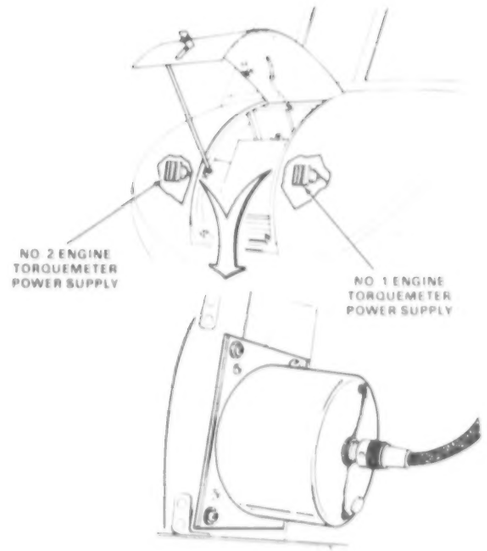
8-6.6 NO. 1 POINTER ON PILOT'S OR COPILOT'S INDICATOR DOES NOT INDICATE TORQUE

FAULT ISOLATION PROCEDURE
INITIAL SETUP
Applicable Configurations:
All
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Materials:
None
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician
100C0 Army Rotary Wing Aviator (2)
References:
TM 55-1520-240-23
TM 55-1520-240-10

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power On
Nose Access Door Open
No. 1 Engine Work Platform Open
No. 1 Engine Upper and Lower Access Cover Open
No. 2 Engine Work Platform Open
No. 2 Engine Upper and Lower Access Doors Open







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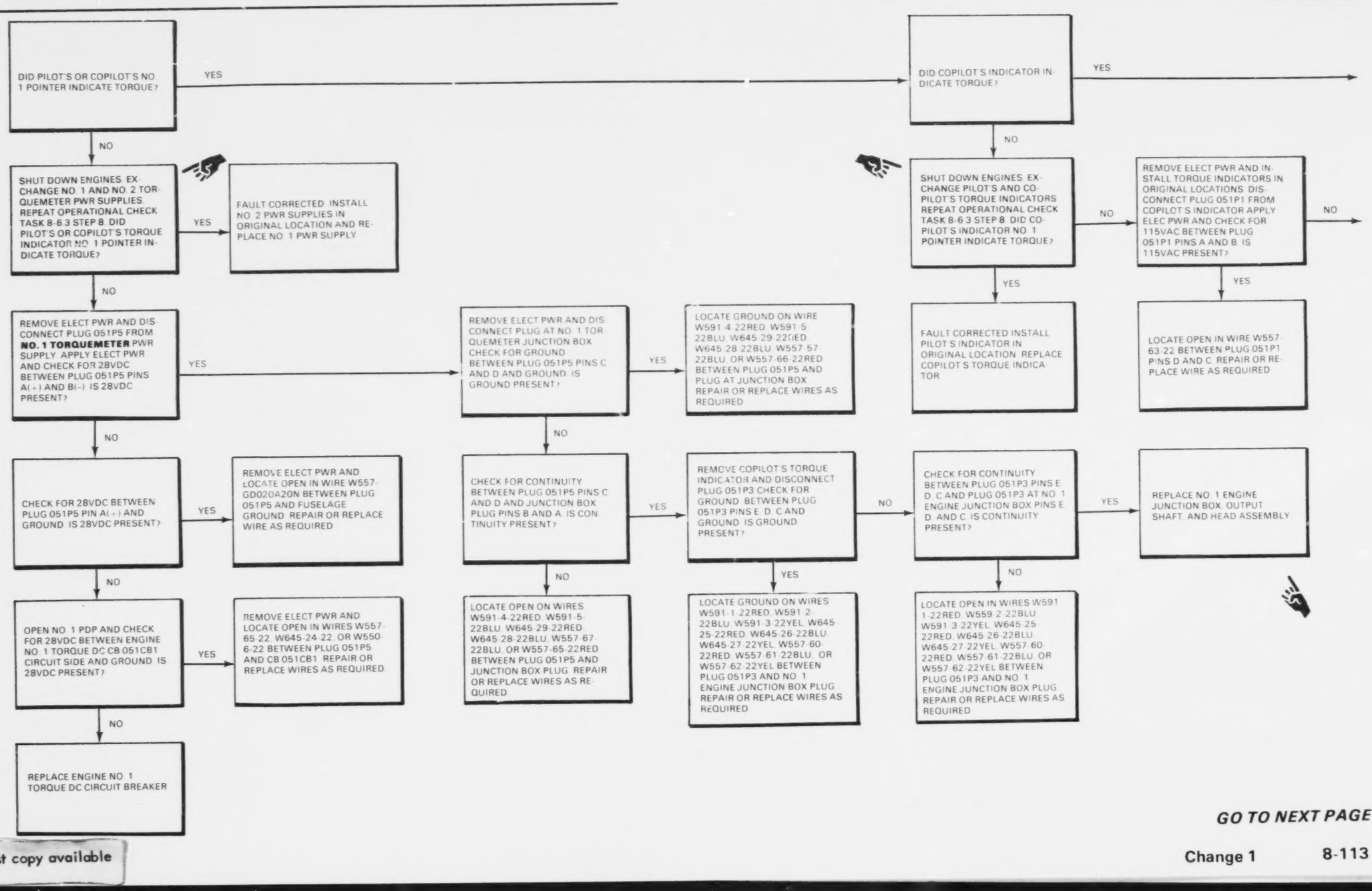
8-6.6 NO. 1 POINTER ON PILOT'S OR COPILOT'S INDICATOR DOES NOT INDICATE TORQUE (Continued)


DID PILOT'S OR COPILOT'S NO. 1 POINTER INDICATE TORQUE?
YES
NO
SHUT DOWN ENGINES. EXCHANGE NO. 1 AND NO. 2 TORQUEMETER PWR SUPPLIES. REPEAT OPERATIONAL CHECK TASK 8-6.3 STEP 8. DID PILOT'S OR COPILOT'S TORQUE INDICATOR NO. 1 POINTER INDICATE TORQUE?
YES
FAULT CORRECTED. INSTALL NO. 2 PWR SUPPLIES IN ORIGINAL LOCATION AND REPLACE NO. 1 PWR SUPPLY
NO
REMOVE ELECT PWR AND DISCONNECT PLUG 051P5 FROM **NO. 1 TORQUEMETER** PWR SUPPLY. APPLY ELECT PWR AND CHECK FOR 28VDC BETWEEN PLUG 051P5 PINS A(+) AND B(-) IS 28VDC PRESENT?
YES
NO
CHECK FOR 28VDC BETWEEN PLUG 051P5 PIN A(+) AND GROUND. IS 28VDC PRESENT?
YES
REMOVE ELECT PWR AND LOCATE OPEN IN WIRE W557-GD020A20N BETWEEN PLUG 051P5 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
OPEN NO. 1 PDP AND CHECK FOR 28VDC BETWEEN ENGINE NO. 1 TORQUE DC CB 051CB1 CIRCUIT SIDE AND GROUND. IS 28VDC PRESENT?
YES
REMOVE ELECT PWR AND LOCATE OPEN IN WIRES W557-65-22, W645-24-22, OR W550-6-22 BETWEEN PLUG 051P5 AND CB 051CB1. REPAIR OR REPLACE WIRES AS REQUIRED
NO
REPLACE ENGINE NO. 1 TORQUE DC CIRCUIT BREAKER
REMOVE ELECT PWR AND DISCONNECT PLUG AT NO. 1 TORQUEMETER JUNCTION BOX. CHECK FOR GROUND BETWEEN PLUG 051P5 PINS C AND D AND GROUND. IS GROUND PRESENT?
YES
LOCATE GROUND ON WIRE W591-4-22RED, W591-5-22BLU, W645-29-22RED, W645-28-22BLU, W557-57-22BLU, OR W557-66-22RED BETWEEN PLUG 051P5 AND PLUG AT JUNCTION BOX. REPAIR OR REPLACE WIRES AS REQUIRED
NO
CHECK FOR CONTINUITY BETWEEN PLUG 051P5 PINS C AND D AND JUNCTION BOX PLUG PINS B AND A. IS CONTINUITY PRESENT?
YES
REMOVE COPILOT'S TORQUE INDICATOR AND DISCONNECT PLUG 051P3. CHECK FOR GROUND BETWEEN PLUG 051P3 PINS E, D, C AND GROUND. IS GROUND PRESENT?
YES
LOCATE GROUND ON WIRES W591-1-22RED, W591-2-22BLU, W591-3-22YEL, W645-25-22RED, W645-26-22BLU, W645-27-22YEL, W557-60-22RED, W557-61-22BLU, OR W557-62-22YEL BETWEEN PLUG 051P3 AND NO. 1 ENGINE JUNCTION BOX PLUG. REPAIR OR REPLACE WIRES AS REQUIRED
NO
LOCATE OPEN ON WIRES W591-4-22RED, W591-5-22BLU, W645-29-22RED, W645-28-22BLU, W557-67-22BLU, OR W557-65-22RED BETWEEN PLUG 051P5 AND JUNCTION BOX PLUG. REPAIR OR REPLACE WIRES AS REQUIRED
DID COPILOT'S INDICATOR INDICATE TORQUE?
YES
NO
SHUT DOWN ENGINES. EXCHANGE PILOT'S AND COPILOT'S TORQUE INDICATORS. REPEAT OPERATIONAL CHECK TASK 8-6.3 STEP 8. DID COPILOT'S INDICATOR NO. 1 POINTER INDICATE TORQUE?
NO
REMOVE ELECT PWR AND INSTALL TORQUE INDICATORS IN ORIGINAL LOCATIONS. DISCONNECT PLUG 051P1 FROM COPILOT'S INDICATOR. APPLY ELEC PWR AND CHECK FOR 115VAC BETWEEN PLUG 051P1 PINS A AND B. IS 115VAC PRESENT?
NO
YES
LOCATE OPEN IN WIRE W557-63-22 BETWEEN PLUG 051P1 PINS D AND C. REPAIR OR REPLACE WIRE AS REQUIRED
YES
FAULT CORRECTED. INSTALL PILOT'S INDICATOR IN ORIGINAL LOCATION. REPLACE COPILOT'S TORQUE INDICATOR
YES
CHECK FOR CONTINUITY BETWEEN PLUG 051P3 PINS E, D, C AND PLUG 051P3 AT NO. 1 ENGINE JUNCTION BOX PINS E, D, AND C. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRES W591-1-22RED, W559-2-22BLU, W591-3-22YEL, W645-25-22RED, W645-26-22BLU, W645-27-22YEL, W557-60-22RED, W557-61-22BLU, OR W557-62-22YEL BETWEEN PLUG 051P3 AND NO. 1 ENGINE JUNCTION BOX PLUG. REPAIR OR REPLACE WIRES AS REQUIRED
YES
REPLACE NO. 1 ENGINE JUNCTION BOX, OUTPUT SHAFT, AND HEAD ASSEMBLY

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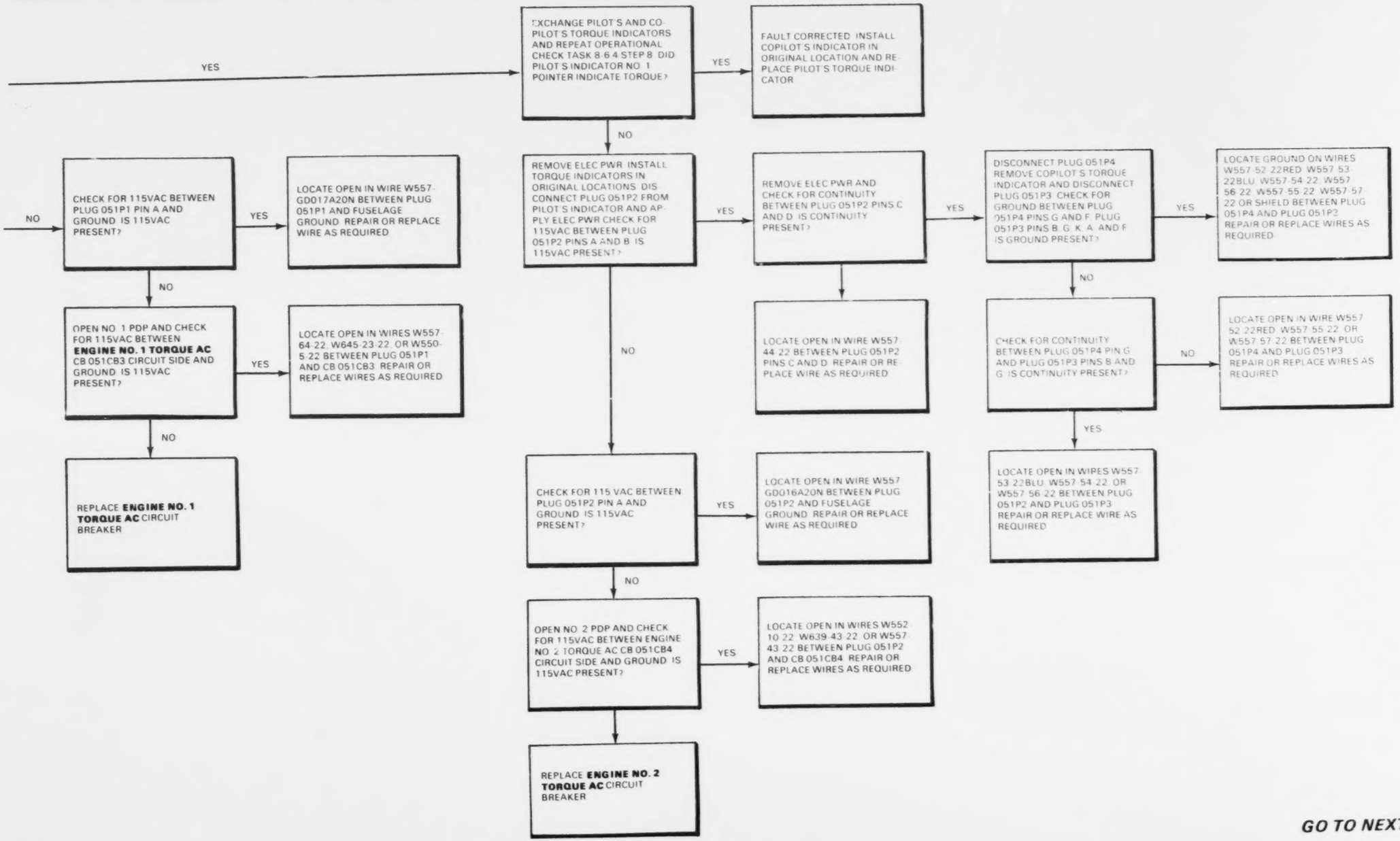
8-6.6 NO. 1 POINTER ON PILOT'S OR COPILOT'S INDICATE DOES NOT INDICATE TORQUE (Continued)


YES
EXCHANGE PILOT'S AND CO-PILOT'S TORQUE INDICATORS AND REPEAT OPERATIONAL CHECK TASK 8-6.4 STEP 8. DID PILOT'S INDICATOR NO. 1 POINTER INDICATE TORQUE?
YES
FAULT CORRECTED. INSTALL COPILOT'S INDICATOR IN ORIGINAL LOCATION AND REPLACE PILOT'S TORQUE INDICATOR
NO
NO
CHECK FOR 115VAC BETWEEN PLUG 051P1 PIN A AND GROUND. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRE W557-GD017A20N BETWEEN PLUG 051P1 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
OPEN NO. 1 PDP AND CHECK FOR 115VAC BETWEEN ENGINE NO. 1 TORQUE AC CB 051CB3 CIRCUIT SIDE AND GROUND. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRES W557-64-22, W645-23-22, OR W550-5-22 BETWEEN PLUG 051P1 AND CB 051CB3. REPAIR OR REPLACE WIRES AS REQUIRED
NO
REPLACE ENGINE NO. 1 TORQUE AC CIRCUIT BREAKER
REMOVE ELEC PWR. INSTALL TORQUE INDICATORS IN ORIGINAL LOCATIONS. DISCONNECT PLUG 051P2 FROM PILOT'S INDICATOR AND APPLY ELEC PWR. CHECK FOR 115VAC BETWEEN PLUG 051P2 PINS A AND B. IS 115VAC PRESENT?
YES
REMOVE ELEC PWR AND CHECK FOR CONTINUITY BETWEEN PLUG 051P2 PINS C AND D. IS CONTINUITY PRESENT?
YES
DISCONNECT PLUG 051P4. REMOVE COPILOT'S TORQUE INDICATOR AND DISCONNECT PLUG 051P3. CHECK FOR GROUND BETWEEN PLUG 051P4 PINS G AND F, PLUG 051P3 PINS B, G, K, A, AND F. IS GROUND PRESENT?
YES
LOCATE GROUND ON WIRES W557-52-22RED, W557-53-22BLU, W557-54-22, W557-56-22, W557-55-22, W557-57-22 OR SHIELD BETWEEN PLUG 051P4 AND PLUG 051P2. REPAIR OR REPLACE WIRES AS REQUIRED
NO
CHECK FOR CONTINUITY BETWEEN PLUG 051P4 PIN G AND PLUG 051P3 PINS B AND G. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W557-52-22RED, W557-55-22, OR W557-57-22 BETWEEN PLUG 051P4 AND PLUG 051P3. REPAIR OR REPLACE WIRES AS REQUIRED
YES
LOCATE OPEN IN WIRES W557-53-22BLU, W557-54-22, OR W557-56-22 BETWEEN PLUG 051P2 AND PLUG 051P3. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-44-22 BETWEEN PLUG 051P2 PINS C AND D. REPAIR OR REPLACE WIRE AS REQUIRED
NO
CHECK FOR 115 VAC BETWEEN PLUG 051P2 PIN A AND GROUND. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRE W557-GD016A20N BETWEEN PLUG 051P2 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
OPEN NO. 2 PDP AND CHECK FOR 115VAC BETWEEN ENGINE NO. 2 TORQUE AC CB 051CB4 CIRCUIT SIDE AND GROUND. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRES W552-10-22, W639-43-22, OR W557-43-22 BETWEEN PLUG 051P2 AND CB 051CB4. REPAIR OR REPLACE WIRES AS REQUIRED
REPLACE ENGINE NO. 2 TORQUE AC CIRCUIT BREAKER

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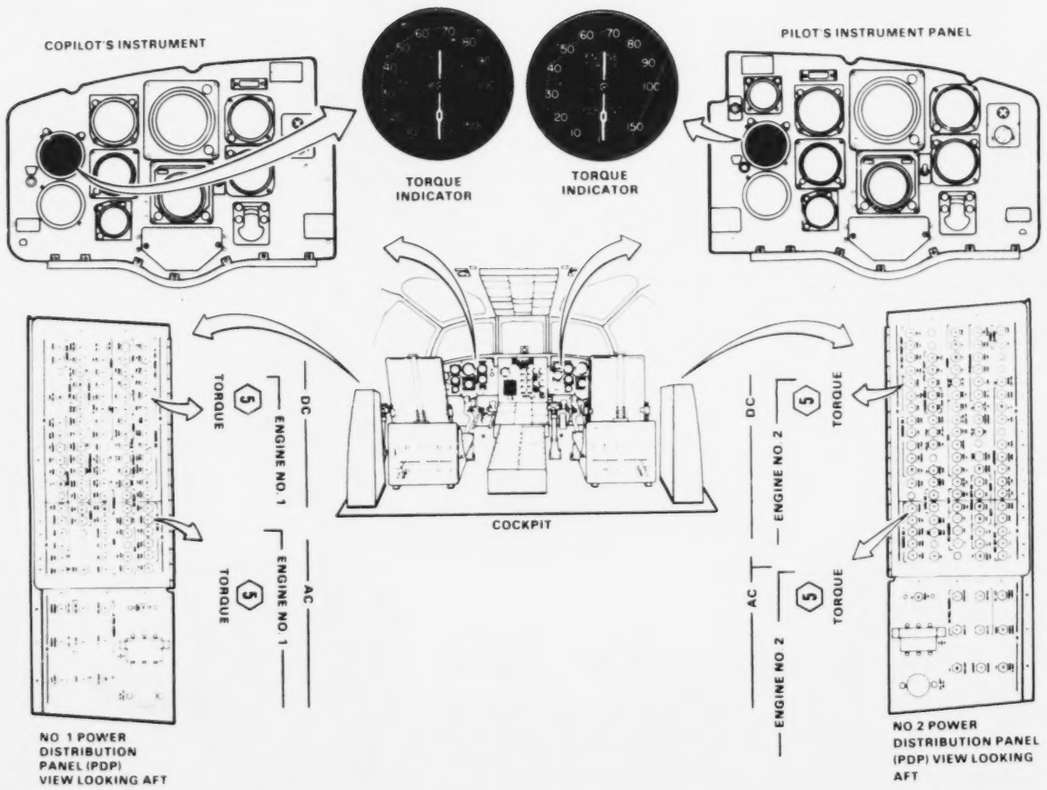
8-6.6 NO. 1 POINTER ON PILOT'S OR COPILOT'S INDICATOR DOES NOT INDICATE TORQUE (Continued)



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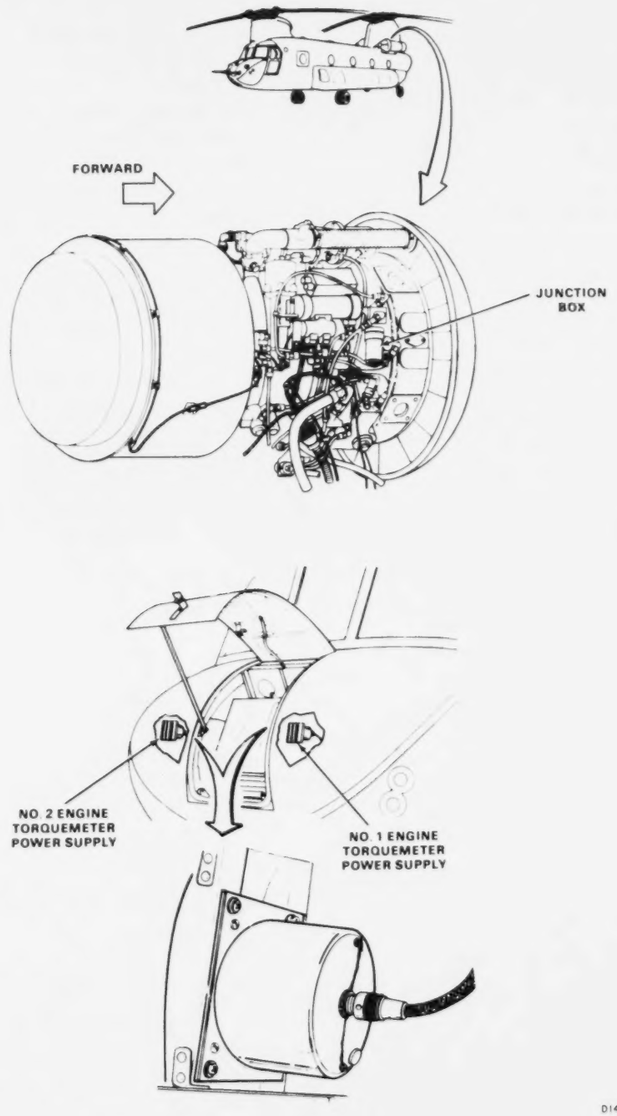


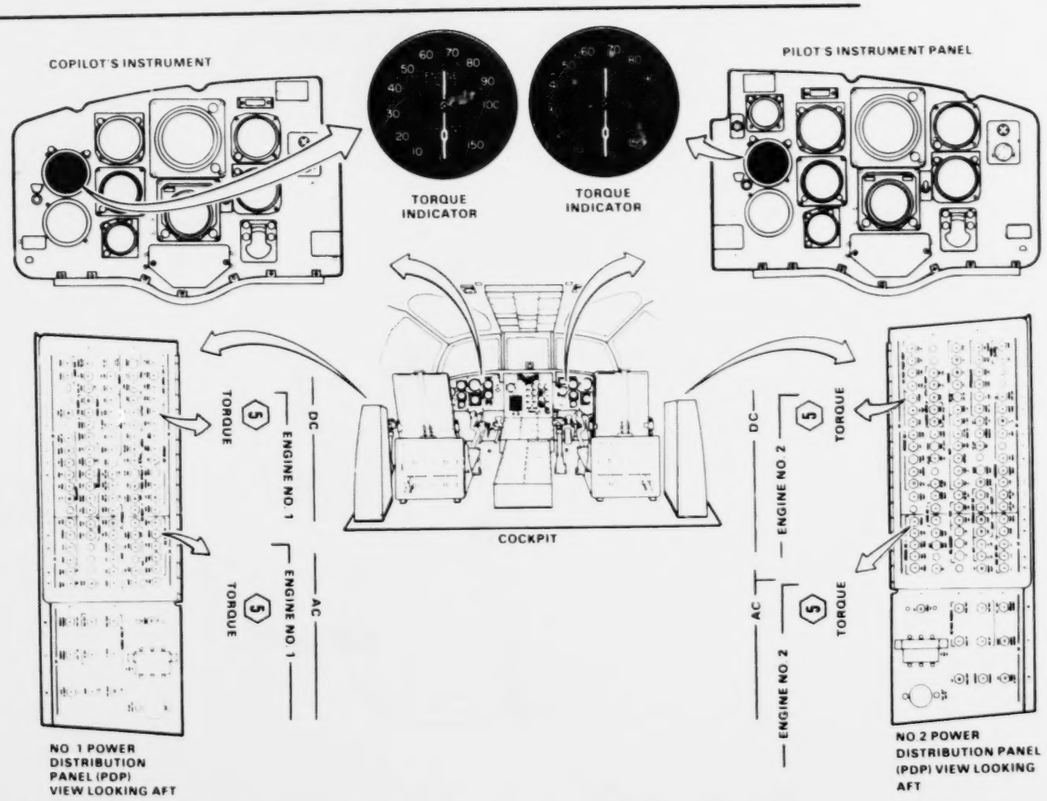
D145-11224-SPA

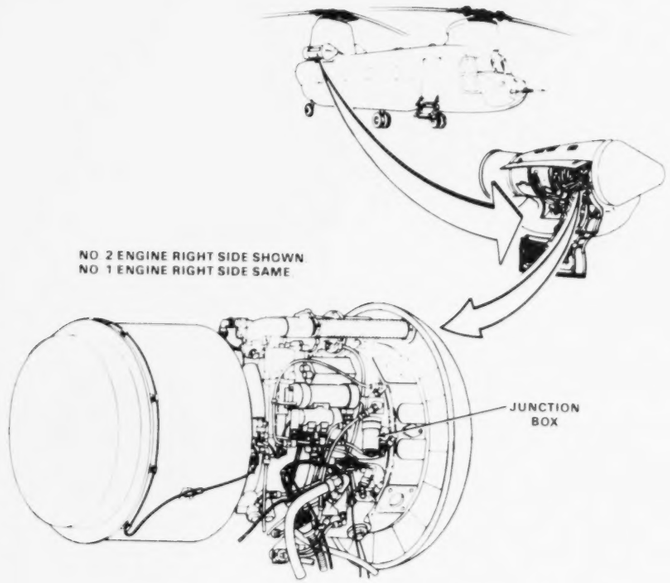
END OF TASK

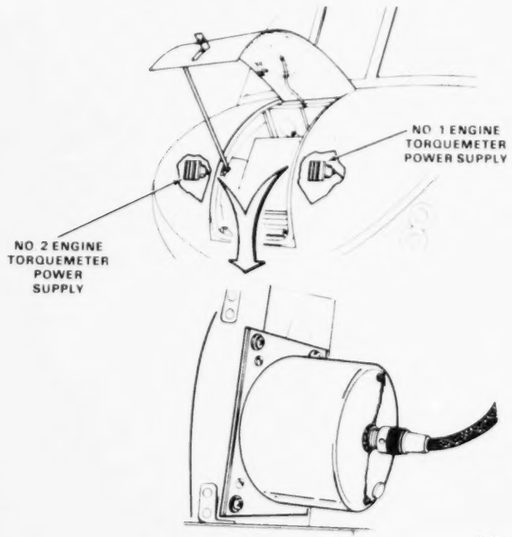
8-6.7 NO. 2 POINTER ON PILOT'S OR COPILOT'S INDICATOR DOES NOT INDICATE TORQUE

FAULT ISOLATION PROCEDURE
INITIAL SETUP
Applicable Configurations:
All
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Materials:
None
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician
100C0 Army Rotary Wing Aviator (2)
References:
TM 55-1520-240-23
TM 55-1520-240-10

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power On
Nose Access Door Open
No. 1 Engine Work Platform Open
No. 1 Engine Upper and Lower Access Covers Open
No. 2 Engine Work Platform Open
No. 2 Engine Upper and Lower Access Doors Open







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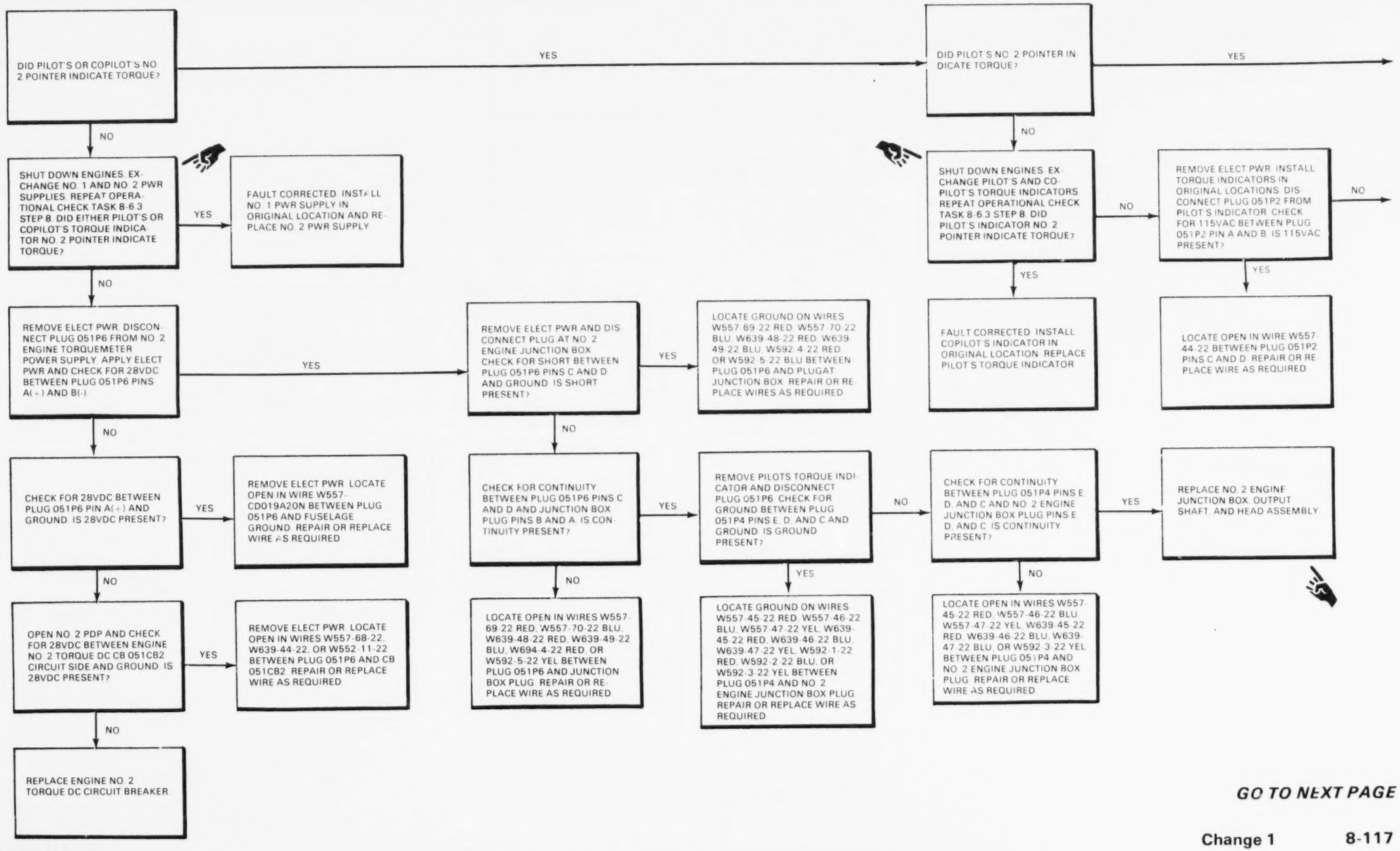
8-6.7 NO. 2 POINTER ON PILOT'S OR COPILOT'S INDICATOR DOES NOT INDICATE TORQUE (Continued)


DID PILOT'S OR COPILOT'S NO. 2 POINTER INDICATE TORQUE?
YES
DID PILOT'S NO. 2 POINTER INDICATE TORQUE?
YES
NO
NO
SHUT DOWN ENGINES. EXCHANGE NO. 1 AND NO. 2 PWR SUPPLIES. REPEAT OPERATIONAL CHECK TASK 8-6.3 STEP 8. DID EITHER PILOT'S OR COPILOT'S TORQUE INDICATOR NO. 2 POINTER INDICATE TORQUE?
YES
FAULT CORRECTED. INSTALL NO. 1 PWR SUPPLY IN ORIGINAL LOCATION AND REPLACE NO. 2 PWR SUPPLY
SHUT DOWN ENGINES. EXCHANGE PILOT'S AND COPILOT'S TORQUE INDICATORS. REPEAT OPERATIONAL CHECK TASK 8-6.3 STEP 8. DID PILOT'S INDICATOR NO. 2 POINTER INDICATE TORQUE?
NO
REMOVE ELECT PWR. INSTALL TORQUE INDICATORS IN ORIGINAL LOCATIONS. DISCONNECT PLUG 051P2 FROM PILOT'S INDICATOR. CHECK FOR 115VAC BETWEEN PLUG 051P2 PIN A AND B. IS 115VAC PRESENT?
NO
YES
YES
NO
REMOVE ELECT PWR. DISCONNECT PLUG 051P6 FROM NO. 2 ENGINE TORQUEMETER POWER SUPPLY. APPLY ELECT PWR AND CHECK FOR 28VDC BETWEEN PLUG 051P6 PINS A(+) AND B(-).
YES
REMOVE ELECT PWR AND DISCONNECT PLUG AT NO. 2 ENGINE JUNCTION BOX. CHECK FOR SHORT BETWEEN PLUG 051P6 PINS C AND D AND GROUND. IS SHORT PRESENT?
YES
LOCATE GROUND ON WIRES W557-69-22 RED, W557-70-22 BLU, W639-48-22 RED, W639-49-22 BLU, W592-4-22 RED OR W592-5-22 BLU BETWEEN PLUG 051P6 AND PLUG AT JUNCTION BOX. REPAIR OR REPLACE WIRES AS REQUIRED
FAULT CORRECTED. INSTALL COPILOT'S INDICATOR IN ORIGINAL LOCATION. REPLACE PILOT'S TORQUE INDICATOR
LOCATE OPEN IN WIRE W557-44-22 BETWEEN PLUG 051P2 PINS C AND D. REPAIR OR REPLACE WIRE AS REQUIRED
NO
NO
NO
CHECK FOR 28VDC BETWEEN PLUG 051P6 PIN A(+) AND GROUND. IS 28VDC PRESENT?
YES
REMOVE ELECT PWR. LOCATE OPEN IN WIRE W557-CD019A20N BETWEEN PLUG 051P6 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR CONTINUITY BETWEEN PLUG 051P6 PINS C AND D AND JUNCTION BOX PLUG PINS B AND A. IS CONTINUITY PRESENT?
YES
REMOVE PILOTS TORQUE INDICATOR AND DISCONNECT PLUG 051P6. CHECK FOR GROUND BETWEEN PLUG 051P4 PINS E, D, AND C AND GROUND. IS GROUND PRESENT?
NO
CHECK FOR CONTINUITY BETWEEN PLUG 051P4 PINS E, D, AND C AND NO. 2 ENGINE JUNCTION BOX PLUG PINS E, D, AND C. IS CONTINUITY PRESENT?
YES
REPLACE NO. 2 ENGINE JUNCTION BOX, OUTPUT SHAFT, AND HEAD ASSEMBLY
NO
NO
YES
NO
OPEN NO. 2 PDP AND CHECK FOR 28VDC BETWEEN ENGINE NO. 2 TORQUE DC CB 051CB2 CIRCUIT SIDE AND GROUND. IS 28VDC PRESENT?
YES
REMOVE ELECT PWR. LOCATE OPEN IN WIRES W557-68-22, W639-44-22, OR W552-11-22 BETWEEN PLUG 051P6 AND CB 051CB2. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE OPEN IN WIRES W557-69-22 RED, W557-70-22 BLU, W639-48-22 RED, W639-49-22 BLU, W694-4-22 RED, OR W592-5-22 YEL BETWEEN PLUG 051P6 AND JUNCTION BOX PLUG. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND ON WIRES W557-45-22 RED, W557-46-22 BLU, W557-47-22 YEL, W639-45-22 RED, W639-46-22 BLU, W639-47-22 YEL, W592-1-22 RED, W592-2-22 BLU, OR W592-3-22 YEL BETWEEN PLUG 051P4 AND NO. 2 ENGINE JUNCTION BOX PLUG. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE OPEN IN WIRES W557-45-22 RED, W557-46-22 BLU, W557-47-22 YEL, W639-45-22 RED, W639-46-22 BLU, W639-47-22 BLU, OR W592-3-22 YEL BETWEEN PLUG 051P4 AND NO. 2 ENGINE JUNCTION BOX PLUG. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE ENGINE NO. 2 TORQUE DC CIRCUIT BREAKER

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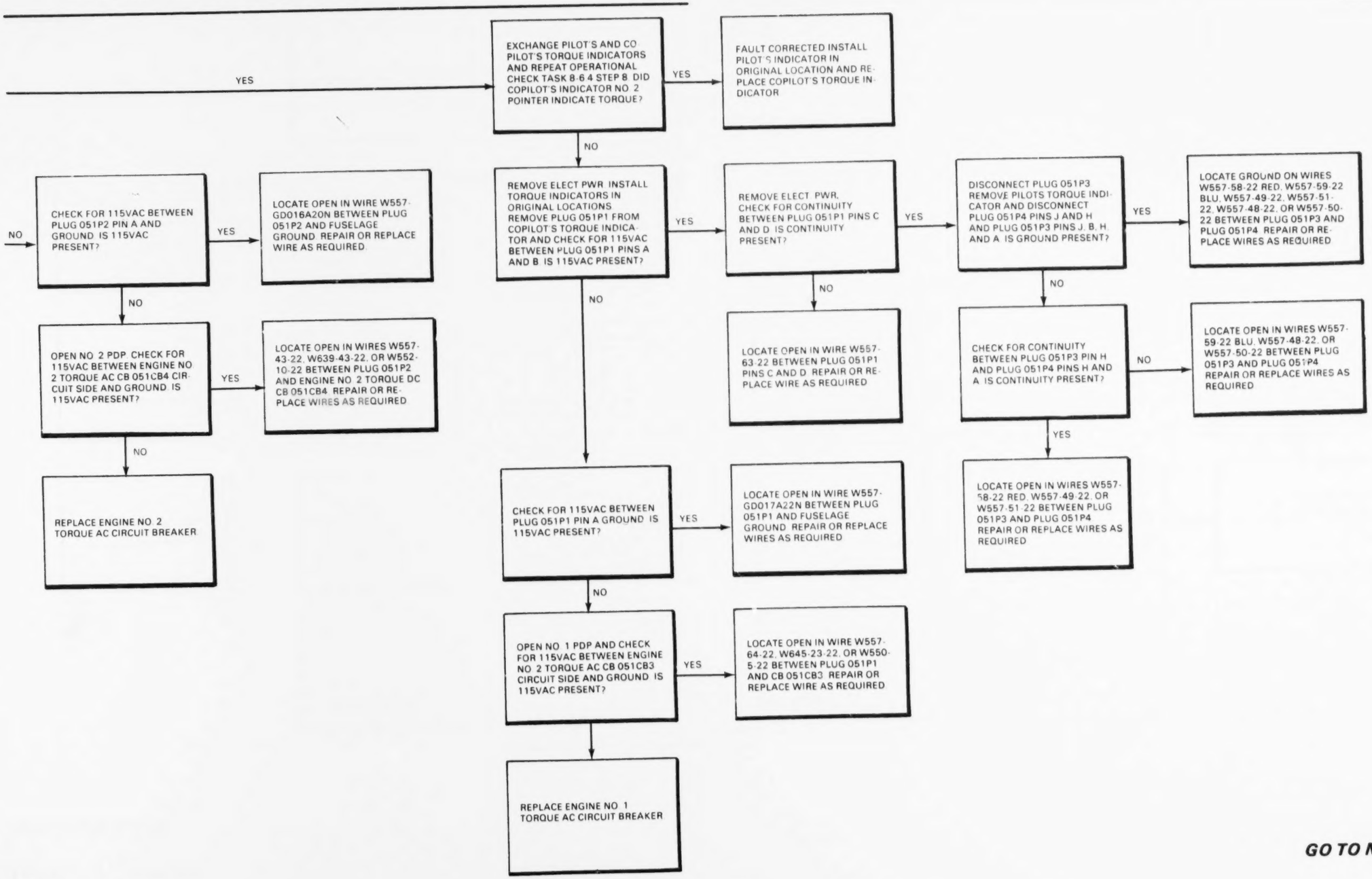
8-6.7 NO. 2 POINTER ON PILOT'S OR COPILOT'S INDICATOR DOES NOT INDICATE TORQUE (Continued)


YES
EXCHANGE PILOT'S AND CO PILOT'S TORQUE INDICATORS AND REPEAT OPERATIONAL CHECK TASK 8-6 4 STEP 8 DID COPILOT'S INDICATOR NO 2 POINTER INDICATE TORQUE?
YES
FAULT CORRECTED INSTALL PILOT'S INDICATOR IN ORIGINAL LOCATION AND REPLACE COPILOT'S TORQUE INDICATOR
NO
NO
CHECK FOR 115VAC BETWEEN PLUG 051P2 PIN A AND GROUND IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRE W557-GD016A20N BETWEEN PLUG 051P2 AND FUSELAGE GROUND REPAIR OR REPLACE WIRE AS REQUIRED
NO
OPEN NO 2 PDP CHECK FOR 115VAC BETWEEN ENGINE NO 2 TORQUE AC CB 051CB4 CIRCUIT SIDE AND GROUND IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRES W557-43-22, W639-43-22, OR W552-10-22 BETWEEN PLUG 051P2 AND ENGINE NO 2 TORQUE DC CB 051CB4 REPAIR OR REPLACE WIRES AS REQUIRED
NO
REPLACE ENGINE NO 2 TORQUE AC CIRCUIT BREAKER
REMOVE ELECT PWR INSTALL TORQUE INDICATORS IN ORIGINAL LOCATIONS REMOVE PLUG 051P1 FROM COPILOT'S TORQUE INDICATOR AND CHECK FOR 115VAC BETWEEN PLUG 051P1 PINS A AND B IS 115VAC PRESENT?
YES
REMOVE ELECT PWR, CHECK FOR CONTINUITY BETWEEN PLUG 051P1 PINS C AND D IS CONTINUITY PRESENT?
YES
DISCONNECT PLUG 051P3 REMOVE PILOTS TORQUE INDICATOR AND DISCONNECT PLUG 051P4 PINS J AND H AND PLUG 051P3 PINS J, B, H, AND A IS GROUND PRESENT?
YES
LOCATE GROUND ON WIRES W557-58-22 RED, W557-59-22 BLU, W557-49-22, W557-51-22, W557-48-22, OR W557-50-22 BETWEEN PLUG 051P3 AND PLUG 051P4 REPAIR OR REPLACE WIRES AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-63-22 BETWEEN PLUG 051P1 PINS C AND D REPAIR OR REPLACE WIRE AS REQUIRED
NO
CHECK FOR CONTINUITY BETWEEN PLUG 051P3 PIN H AND PLUG 051P4 PINS H AND A IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRES W557-59-22 BLU, W557-48-22, OR W557-50-22 BETWEEN PLUG 051P3 AND PLUG 051P4 REPAIR OR REPLACE WIRES AS REQUIRED
YES
LOCATE OPEN IN WIRES W557-58-22 RED, W557-49-22, OR W557-51-22 BETWEEN PLUG 051P3 AND PLUG 051P4 REPAIR OR REPLACE WIRES AS REQUIRED
CHECK FOR 115VAC BETWEEN PLUG 051P1 PIN A GROUND IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRE W557-GD017A22N BETWEEN PLUG 051P1 AND FUSELAGE GROUND REPAIR OR REPLACE WIRES AS REQUIRED
NO
OPEN NO 1 PDP AND CHECK FOR 115VAC BETWEEN ENGINE NO 2 TORQUE AC CB 051CB3 CIRCUIT SIDE AND GROUND IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRE W557-64-22, W645-23-22, OR W550-5-22 BETWEEN PLUG 051P1 AND CB 051CB3 REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE ENGINE NO 1 TORQUE AC CIRCUIT BREAKER

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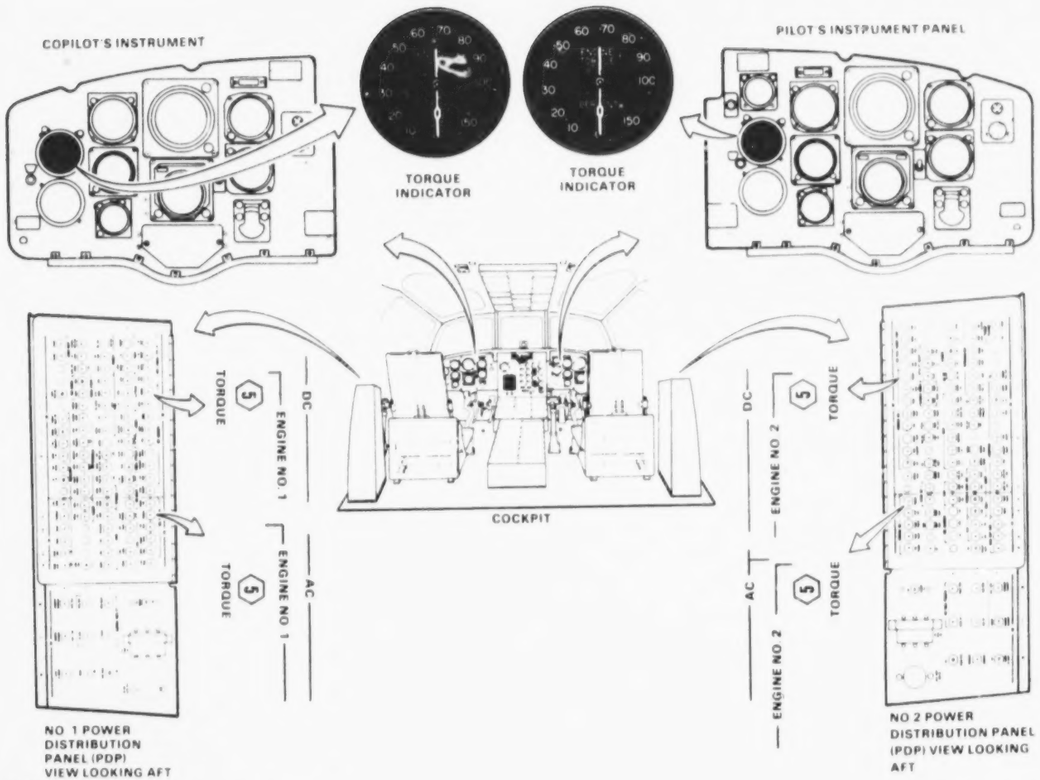
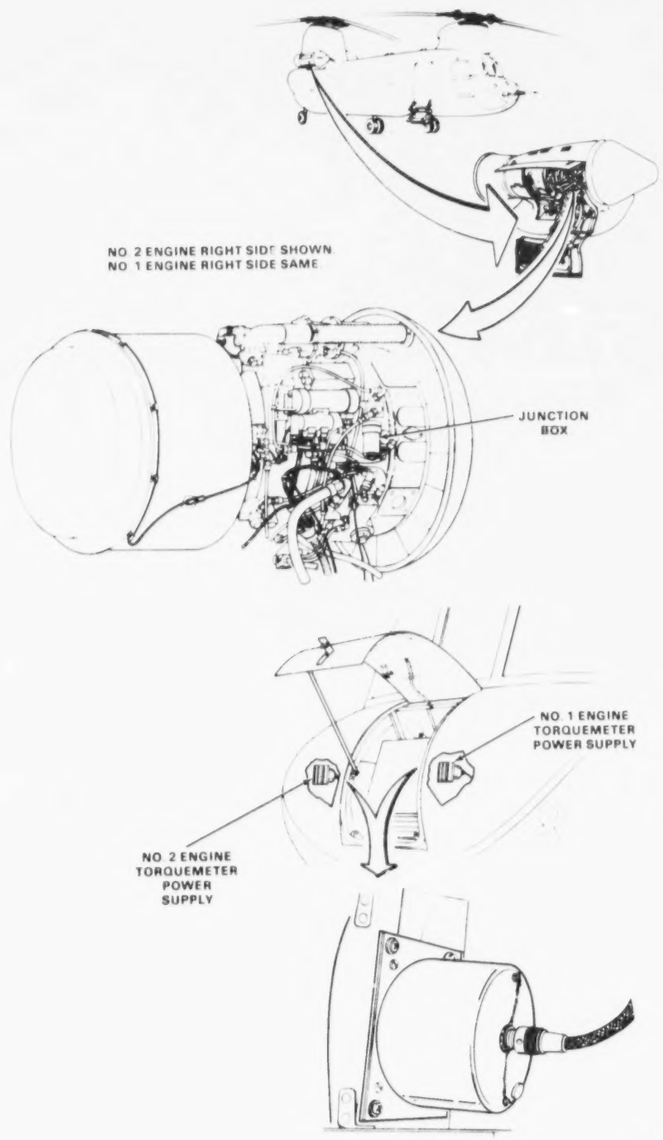
8-6.7 NO. 2 POINTER ON PILOT'S OR COPILOT'S INDICATOR DOES NOT INDICATE TORQUE (Continued)




NO. 2 ENGINE RIGHT SIDE SHOWN
NO. 1 ENGINE RIGHT SIDE SAME
JUNCTION BOX
NO. 1 ENGINE TORQUEMETER POWER SUPPLY
NO. 2 ENGINE TORQUEMETER POWER SUPPLY
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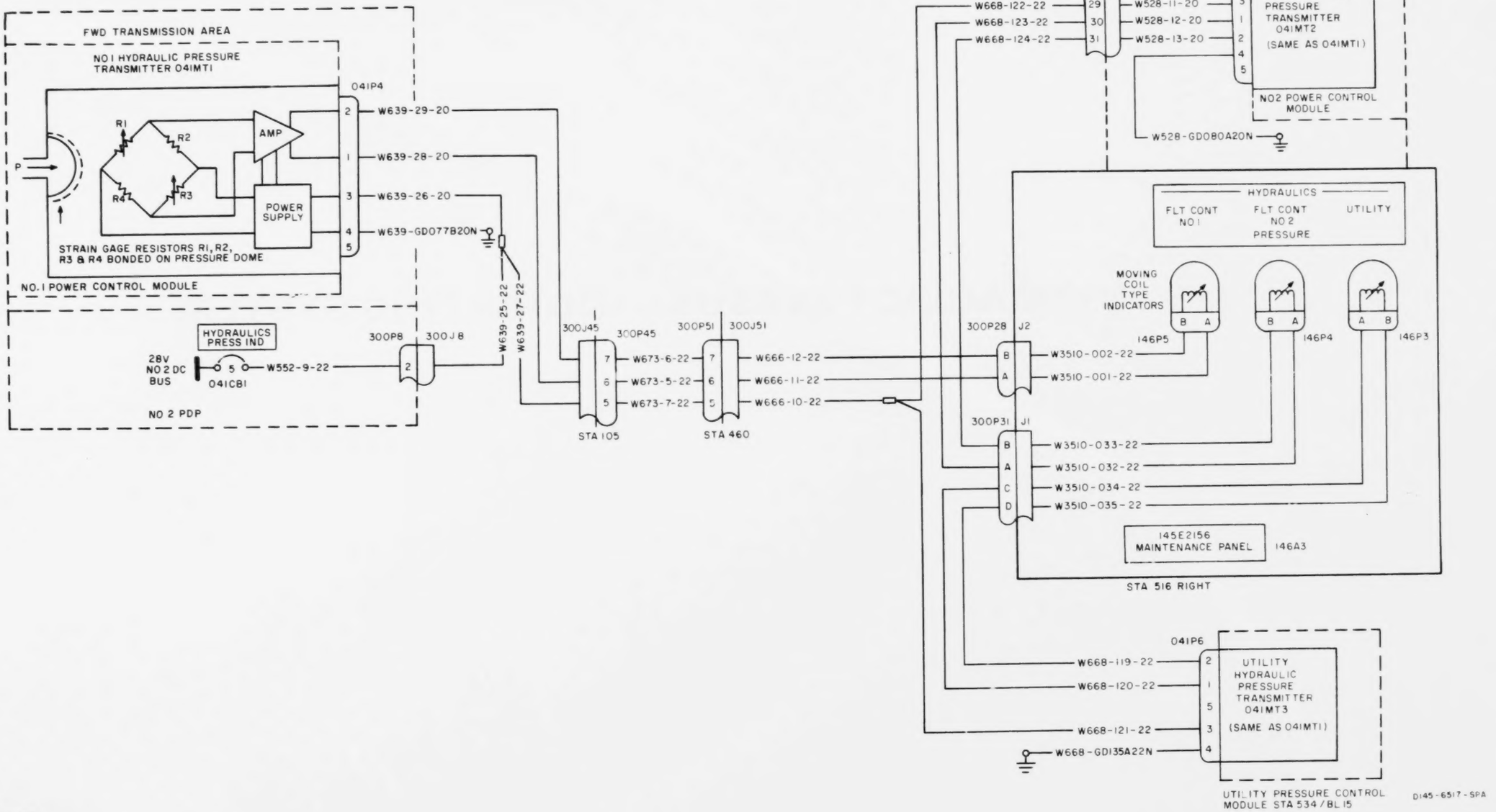
END OF TASK

8-7 HYDRAULIC PRESSURE INDICATING SYSTEM

8-7 HYDRAULIC PRESSURE INDICATING SYSTEM

8-7.1 HYDRAULIC PRESSURE INDICATING SYSTEM WIRING DIAGRAM



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8-7.2 HYDRAULIC PRESSURE INDICATING SYSTEM VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Aircraft Mechanic's Tool Kit,
NSN 5180-00-323-4692

Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer

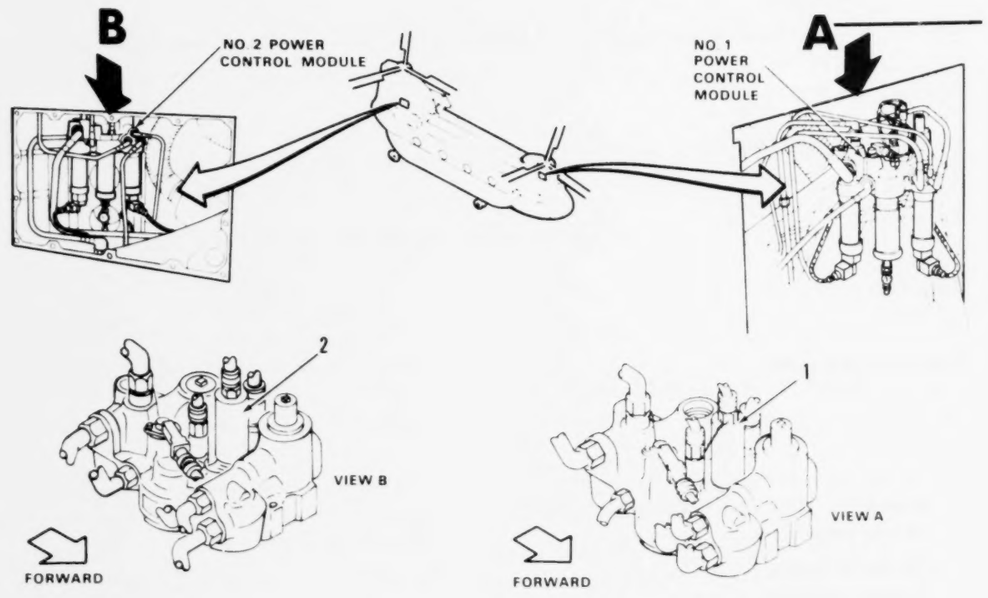
References:
TM 55-1520-240-23

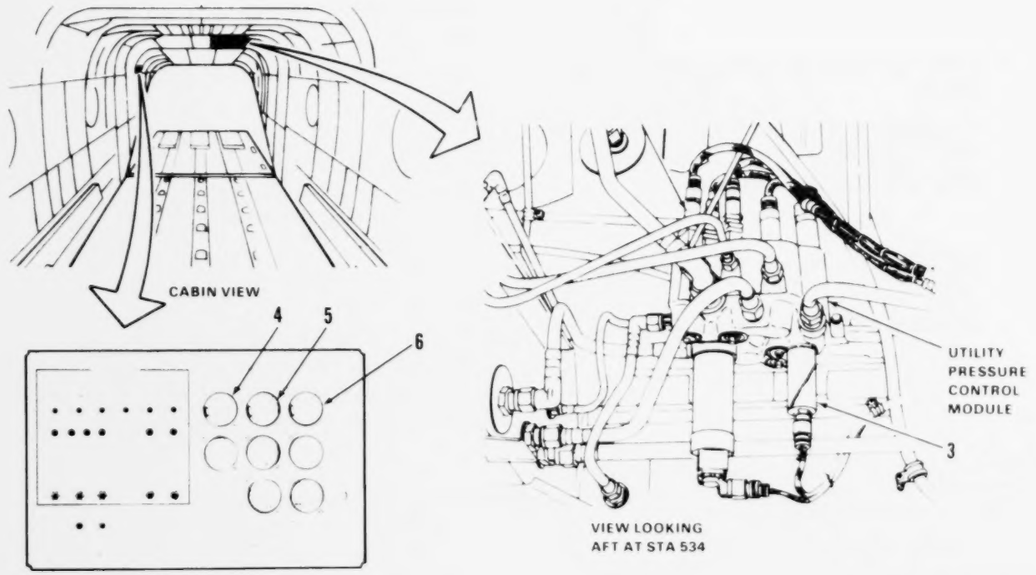
Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Right Forward Work Platform Open
Pylon Right Access Door Open
Cargo Ramp Open and Level (Task 7-3.4)

TASK	RESULT
1. **Check No. 1 hydraulic pressure transmitter (1).**	If transmitter (1) is loose or damaged, tighten or replace it as required. If wiring or connector to transmitter is damaged, repair or replace it as required.
2. **Check No. 2 hydraulic pressure transmitter (2).**	If transmitter (2) is loose or damaged, tighten or replace it as required. If wiring or connector to transmitter is damaged, repair or replace it as required.
3. **Check utility hydraulic pressure transmitter (3).**	If transmitter (3) is loose or damaged, tighten or replace it as required. If wiring or connector to transmitter is damaged, repair or replace it as required.
4. **Check HYDRAULICS PRESSURE indicators (4, 5, and 6).**	If any indicator (4, 5, of 6) is loose or damaged, tighten or replace it.

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23:
Right forward work platform closed.
Pylon right access door closed.





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END OF TASK

8-7.3 HYDRAULIC PRESSURE INDICATING SYSTEM OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
None

Materials:
None

Personnel Required:
67U20 Medium Helicopter Repairer

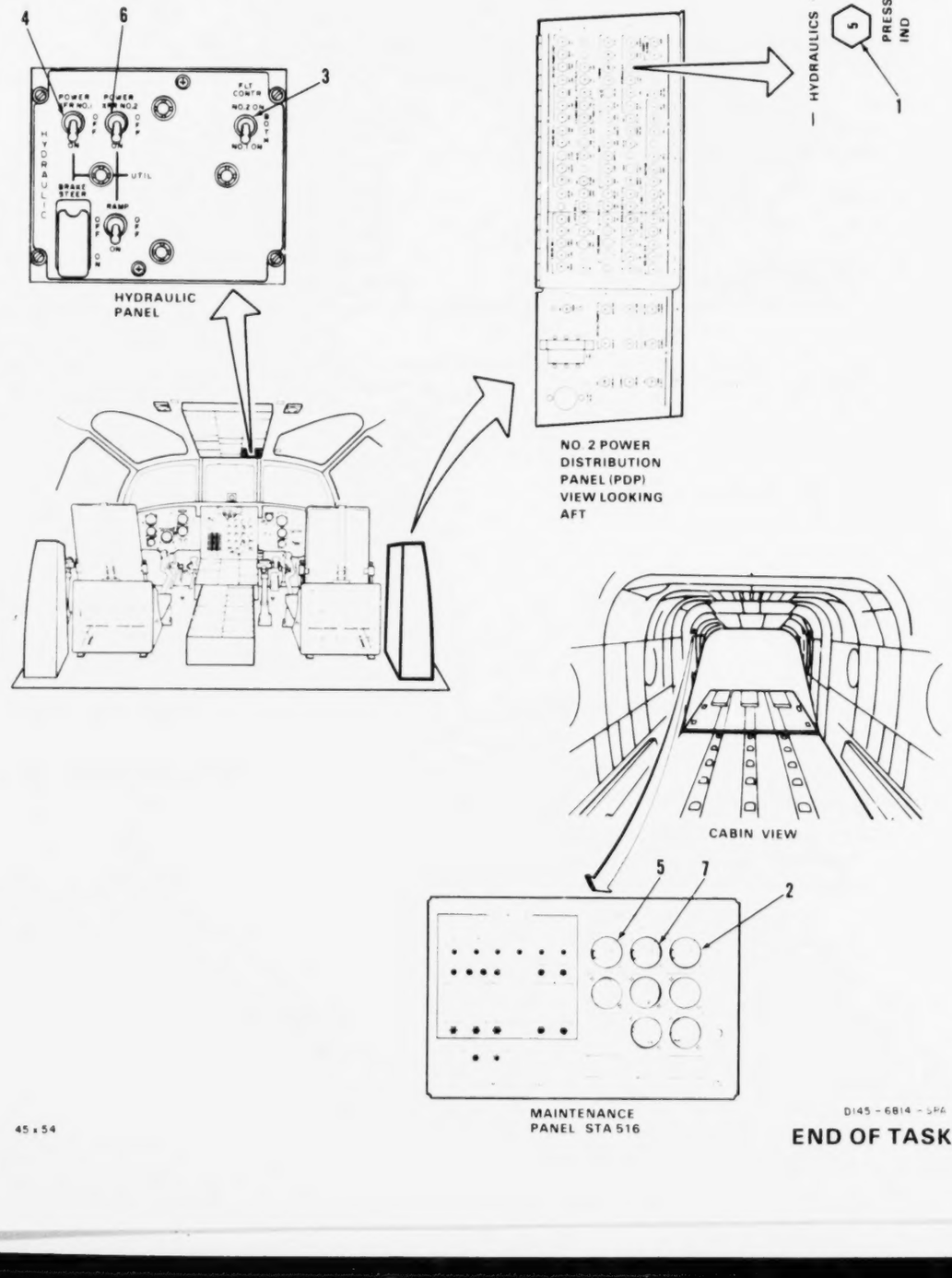
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power On
Hydraulic Pressure Indicating System Visual Check Performed (Task 8-7.2)

TASK	RESULT
1. **Check** that **HYDRAULICS PRESS IND circuit breaker (1)** is closed.	If circuit breaker (1) is open, close it. If it opens again, go to task 8-7.4.
2. **Check UTILITY HYDRAULICS PRESSURE indicator (2).**	Indicator (2) shall indicate 2500 to 3500 psi and pointer shall not fluctuate more than 50 psi. If indicator does not indicate 2500 to 3500 psi or if pointer fluctuates more than 50 psi, go to task 8-7.5.
3. **Check that FLT CONTR switch (3) is at BOTH.**	If it is not, set switch (3) to BOTH.
4. **Set POWER XFR No. 1 switch (4) to ON. Check HYDRAULICS FLT CONT NO. 1 PRESSURE indicator (5).**	Indicator (5) shall indicate 2500 to 3200 psi and pointer shall not fluctuate more than 50 psi. If indicator does not indicate 2500 to 3200 psi or if pointer fluctuates more than 50 psi, go to task 8-7.6.
5. **Set POWER XFR No. 1 switch (4) to OFF.**	
6. **Set POWER XFR No. 2 switch (6) to ON.**	Indicator (7) shall indicate 2500 to 3200 psi and pointer shall not fluctuate more than 50 psi. If indicator does not indicate 2500 to 3200 psi or if pointer fluctuates more than 50 psi, go to task 8-7.7.
7. Set POWER XFR No. 2 switch (6) to OFF.	

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



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END OF TASK

8-7.4 HYDRAULICS PRESS IND CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

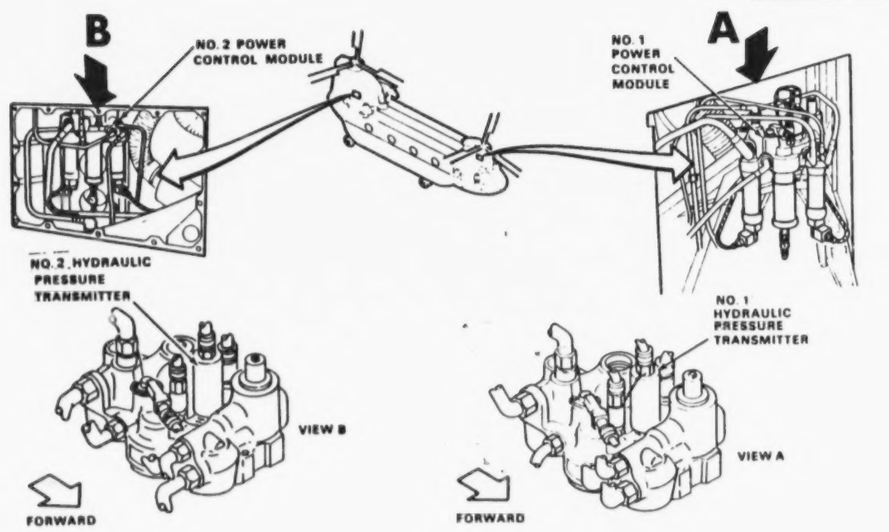
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

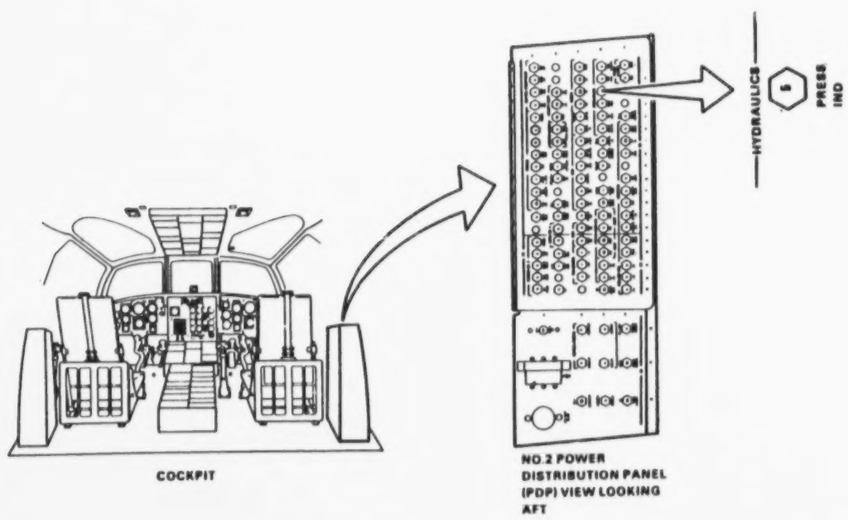
Materials:
None

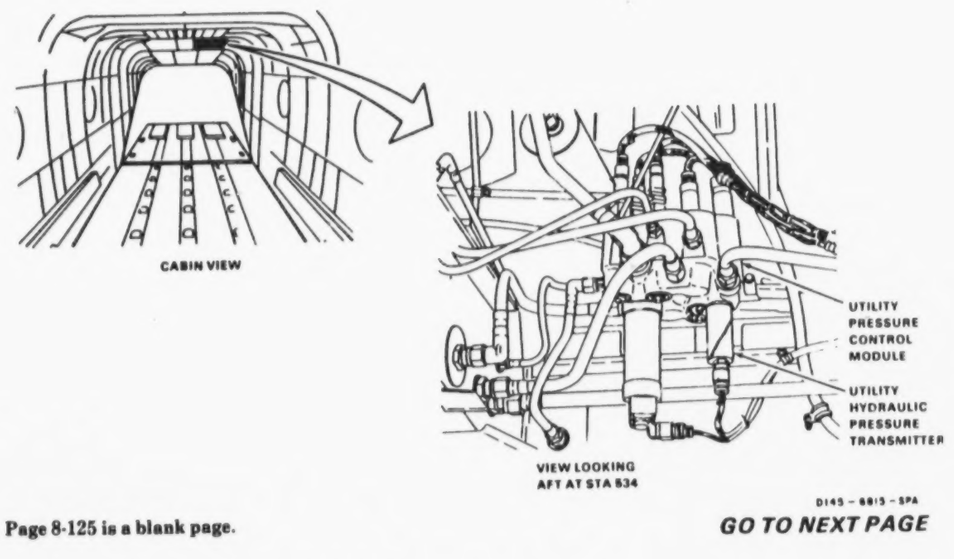
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-120-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off







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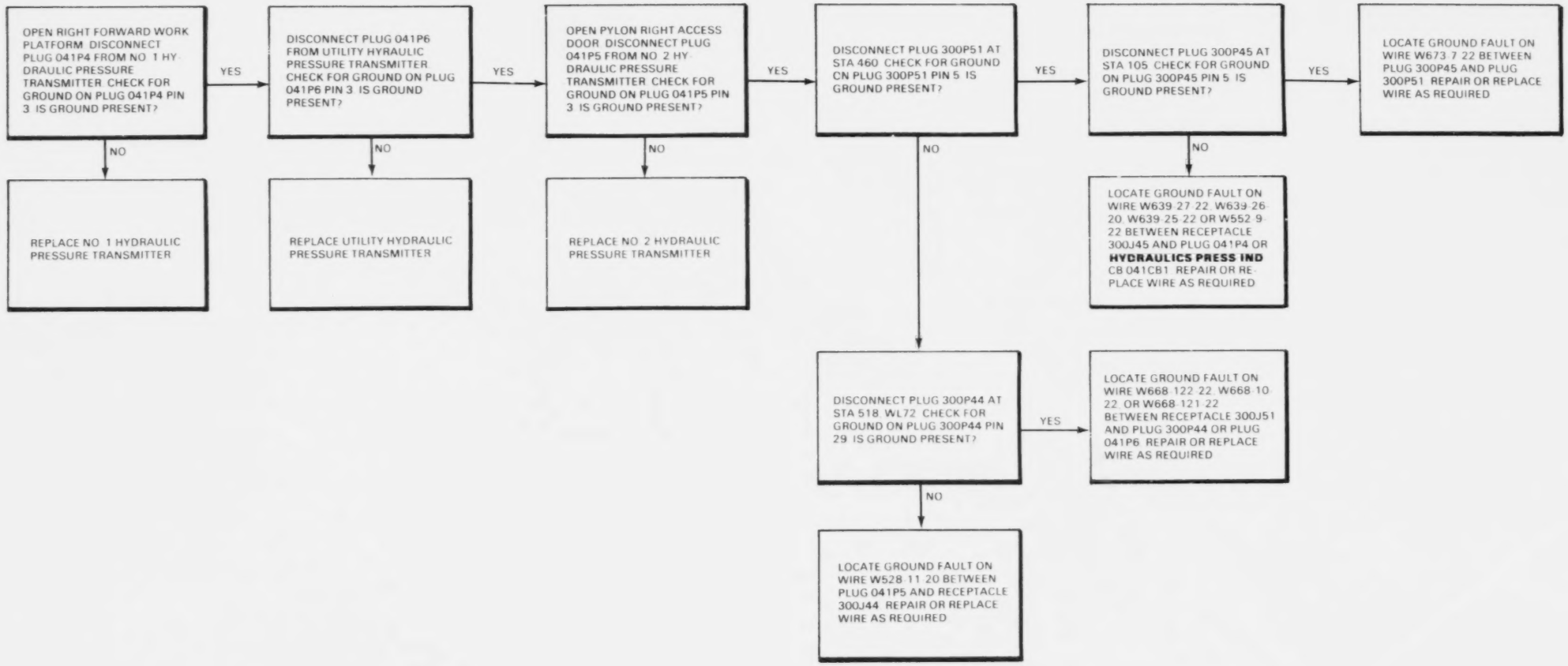
8-7.4 HYDRAULICS PRESS IND CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)


OPEN RIGHT FORWARD WORK PLATFORM. DISCONNECT PLUG 041P4 FROM NO. 1 HYDRAULIC PRESSURE TRANSMITTER. CHECK FOR GROUND ON PLUG 041P4 PIN 3. IS GROUND PRESENT?
YES
NO
REPLACE NO. 1 HYDRAULIC PRESSURE TRANSMITTER
DISCONNECT PLUG 041P6 FROM UTILITY HYRAULIC PRESSURE TRANSMITTER. CHECK FOR GROUND ON PLUG 041P6 PIN 3. IS GROUND PRESENT?
YES
NO
REPLACE UTILITY HYDRAULIC PRESSURE TRANSMITTER
OPEN PYLON RIGHT ACCESS DOOR. DISCONNECT PLUG 041P5 FROM NO. 2 HYDRAULIC PRESSURE TRANSMITTER. CHECK FOR GROUND ON PLUG 041P5 PIN 3. IS GROUND PRESENT?
YES
NO
REPLACE NO. 2 HYDRAULIC PRESSURE TRANSMITTER
DISCONNECT PLUG 300P51 AT STA 460. CHECK FOR GROUND ON PLUG 300P51 PIN 5. IS GROUND PRESENT?
YES
NO
DISCONNECT PLUG 300P45 AT STA 105. CHECK FOR GROUND ON PLUG 300P45 PIN 5. IS GROUND PRESENT?
YES
NO
LOCATE GROUND FAULT ON WIRE W639-27-22, W639-26-20, W639-25-22 OR W552-9-22 BETWEEN RECEPTACLE 300J45 AND PLUG 041P4 OR HYDRAULICS PRESS IND CB 041CB1. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W673-7-22 BETWEEN PLUG 300P45 AND PLUG 300P51. REPAIR OR REPLACE WIRE AS REQUIRED
DISCONNECT PLUG 300P44 AT STA 518, WL72. CHECK FOR GROUND ON PLUG 300P44 PIN 29. IS GROUND PRESENT?
YES
NO
LOCATE GROUND FAULT ON WIRE W668-122-22, W668-10-22, OR W668-121-22 BETWEEN RECEPTACLE 300J51 AND PLUG 300P44 OR PLUG 041P6. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W528-11-20 BETWEEN PLUG 041P5 AND RECEPTACLE 300J44. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-7.5 UTILITY HYDRAULICS PRESSURE INDICATOR DOES NOT INDICATE 2500 TO 3500 PSI OR POINTER FLUCTUATES MORE THAN 50 PSI

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

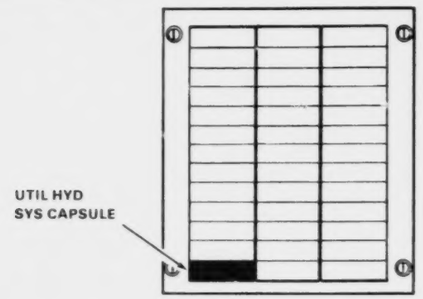
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

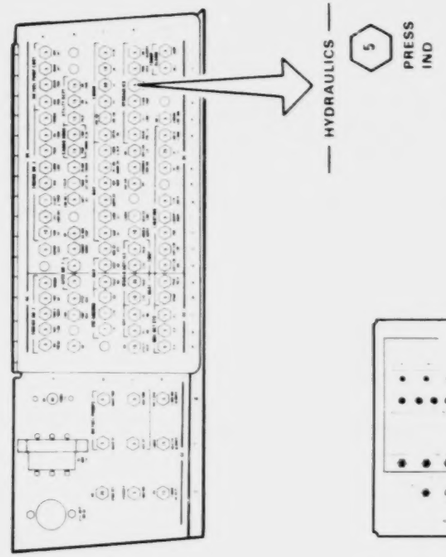
Personnel Required:
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

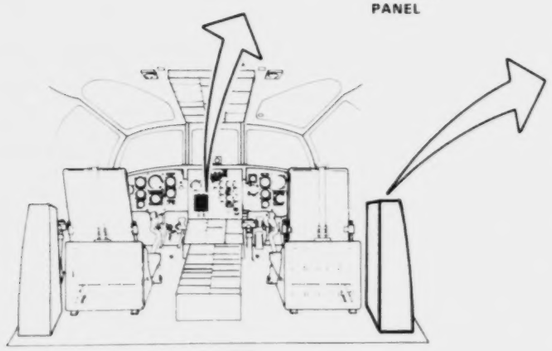
Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power On



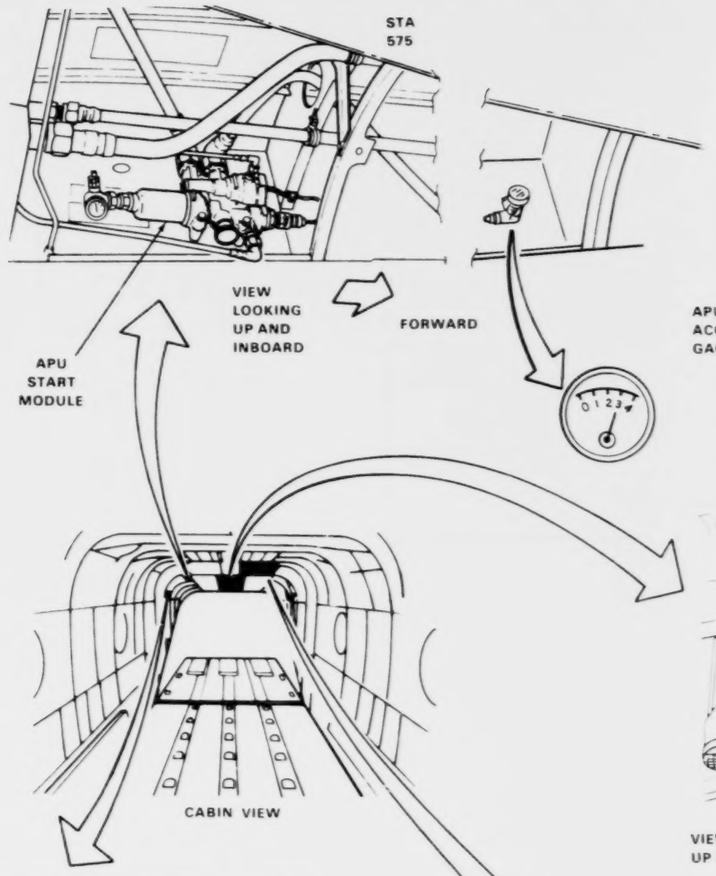
MASTER CAUTION PANEL



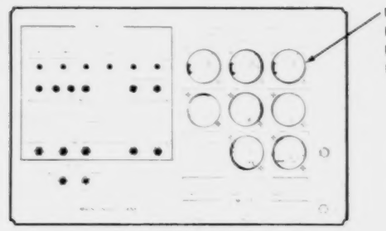
NO. 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT



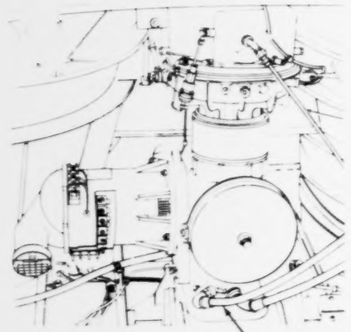
COCKPIT



CABIN VIEW

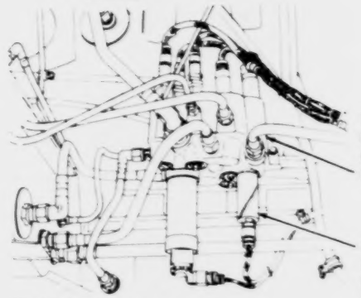


MAINTENANCE PANEL STA 516



VIEW OF APU LOOKING UP AND FORWARD

APU MOTOR PUMP HP HOSE



VIEW LOOKING AFT AT STA 534

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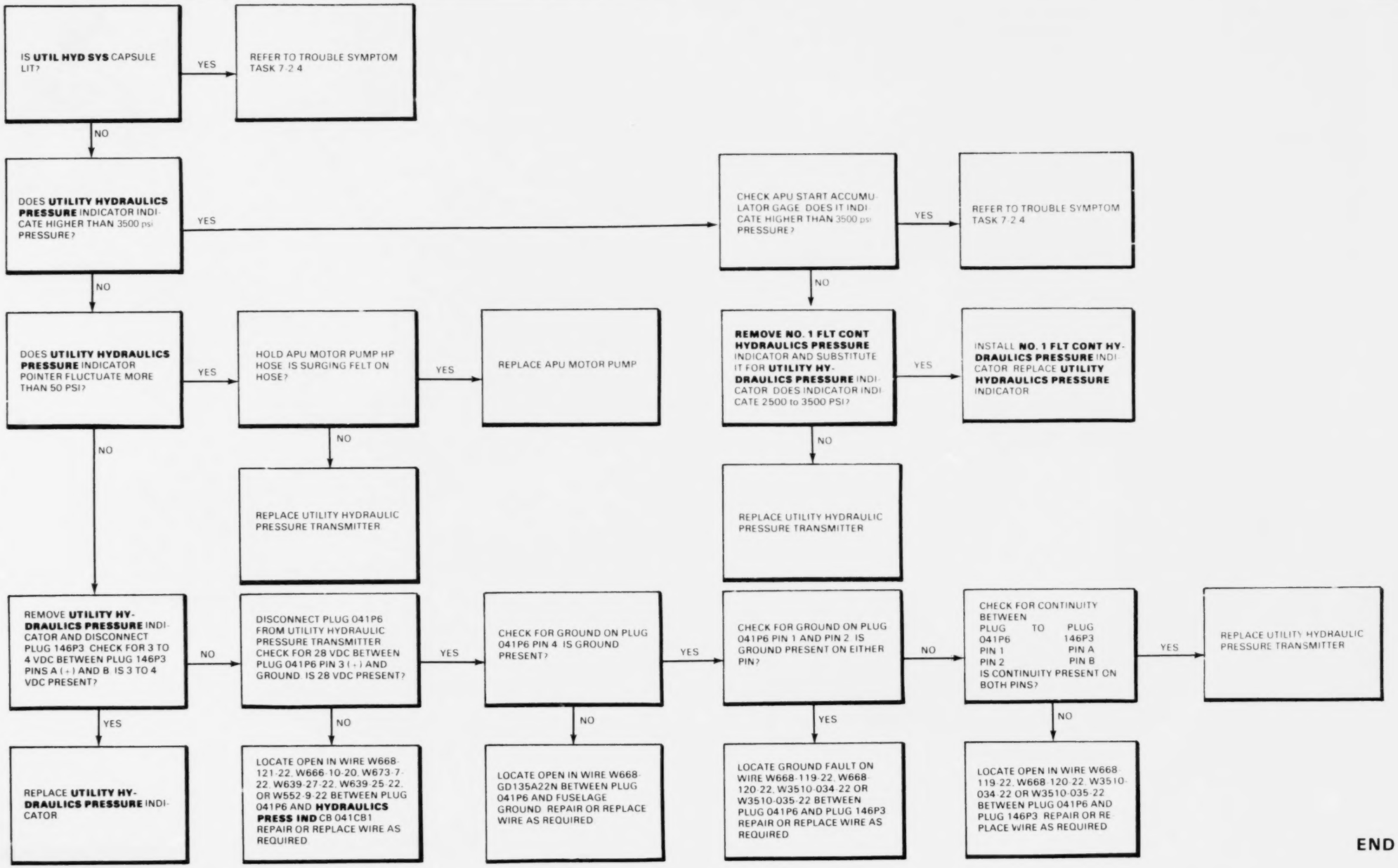
8-7.5 UTILITY HYDRAULIC PRESSURE INDICATOR DOES NOT INDICATE 2500 TO 3500 PSI OR POINTER FLUCTUATES MORE THAN 50 PSI (Continued)


IS UTIL HYD SYS CAPSULE LIT?
YES
REFER TO TROUBLE SYMPTOM TASK 7-2 4
NO
DOES UTILITY HYDRAULICS PRESSURE INDICATOR INDICATE HIGHER THAN 3500 psi PRESSURE?
YES
CHECK APU START ACCUMULATOR GAGE. DOES IT INDICATE HIGHER THAN 3500 psi PRESSURE?
YES
REFER TO TROUBLE SYMPTOM TASK 7-2 4
NO
DOES UTILITY HYDRAULICS PRESSURE INDICATOR POINTER FLUCTUATE MORE THAN 50 PSI?
YES
HOLD APU MOTOR PUMP HP HOSE. IS SURGING FELT ON HOSE?
YES
REPLACE APU MOTOR PUMP
NO
REPLACE UTILITY HYDRAULIC PRESSURE TRANSMITTER
REMOVE NO. 1 FLT CONT HYDRAULICS PRESSURE INDICATOR AND SUBSTITUTE IT FOR UTILITY HYDRAULICS PRESSURE INDICATOR. DOES INDICATOR INDICATE 2500 to 3500 PSI?
YES
INSTALL NO. 1 FLT CONT HYDRAULICS PRESSURE INDICATOR. REPLACE UTILITY HYDRAULICS PRESSURE INDICATOR
NO
REPLACE UTILITY HYDRAULIC PRESSURE TRANSMITTER
NO
REMOVE UTILITY HYDRAULICS PRESSURE INDICATOR AND DISCONNECT PLUG 146P3. CHECK FOR 3 TO 4 VDC BETWEEN PLUG 146P3 PINS A (+) AND B. IS 3 TO 4 VDC PRESENT?
NO
DISCONNECT PLUG 041P6 FROM UTILITY HYDRAULIC PRESSURE TRANSMITTER. CHECK FOR 28 VDC BETWEEN PLUG 041P6 PIN 3 (+) AND GROUND. IS 28 VDC PRESENT?
YES
CHECK FOR GROUND ON PLUG 041P6 PIN 4. IS GROUND PRESENT?
YES
CHECK FOR GROUND ON PLUG 041P6 PIN 1 AND PIN 2. IS GROUND PRESENT ON EITHER PIN?
NO
CHECK FOR CONTINUITY BETWEEN PLUG 041P6 TO PLUG 146P3 PIN 1 PIN A PIN 2 PIN B. IS CONTINUITY PRESENT ON BOTH PINS?
YES
REPLACE UTILITY HYDRAULIC PRESSURE TRANSMITTER
YES
REPLACE UTILITY HYDRAULICS PRESSURE INDICATOR
NO
LOCATE OPEN IN WIRE W668-121-22, W666-10-20, W673-7-22, W639-27-22, W639-25-22, OR W552-9-22 BETWEEN PLUG 041P6 AND HYDRAULICS PRESS IND CB 041CB1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W668-GD135A22N BETWEEN PLUG 041P6 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE GROUND FAULT ON WIRE W668-119-22, W668-120-22, W3510-034-22 OR W3510-035-22 BETWEEN PLUG 041P6 AND PLUG 146P3. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W668-119-22, W668-120-22, W3510-034-22 OR W3510-035-22 BETWEEN PLUG 041P6 AND PLUG 146P3. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-7.6 NO. 1 FLT CONT HYDRAULICS PRESSURE INDICATOR DOES NOT INDICATE 2500 TO 3200 PSI OR POINTER FLUCTUATES MORE THAN 50 PSI

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

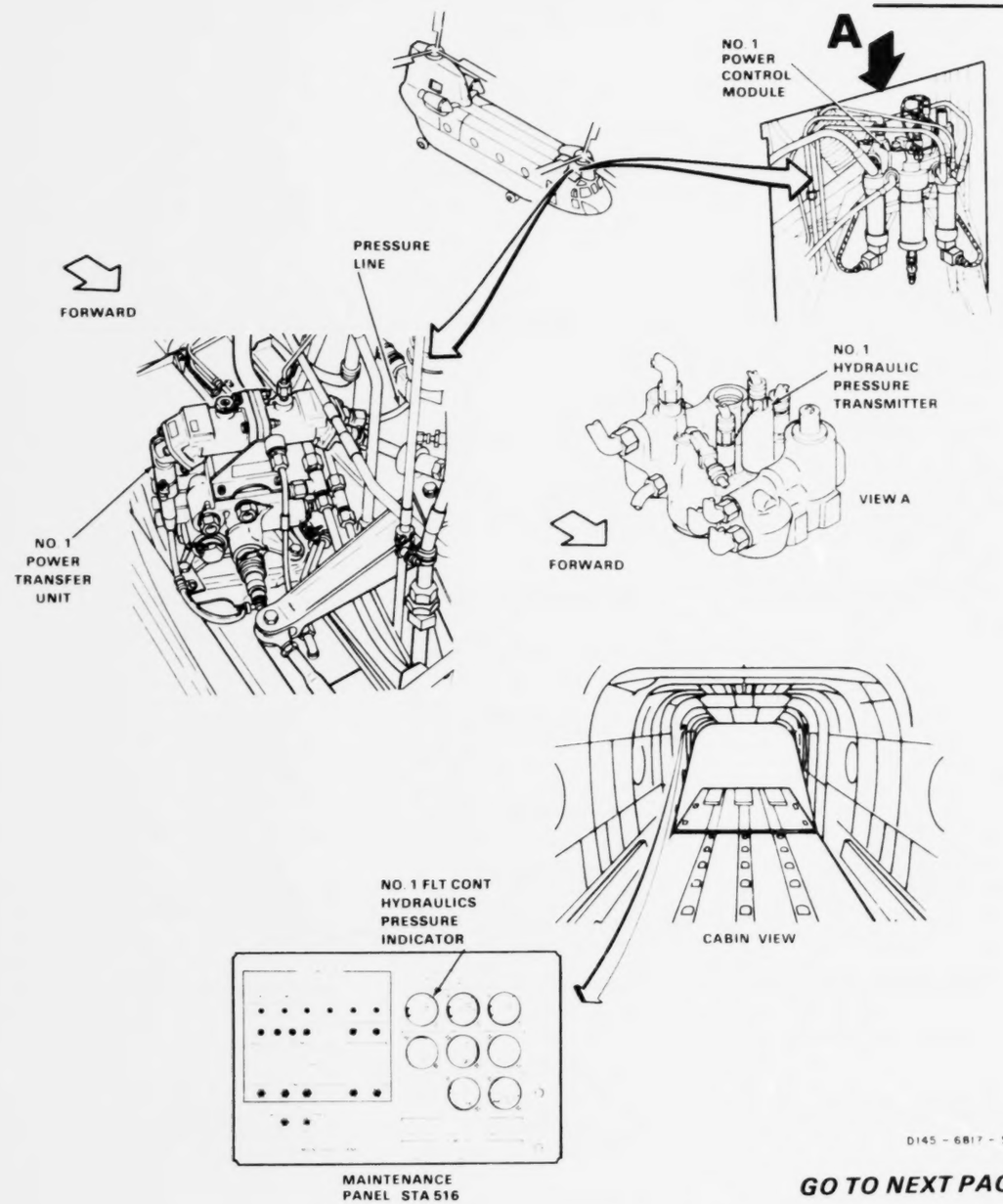
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power On



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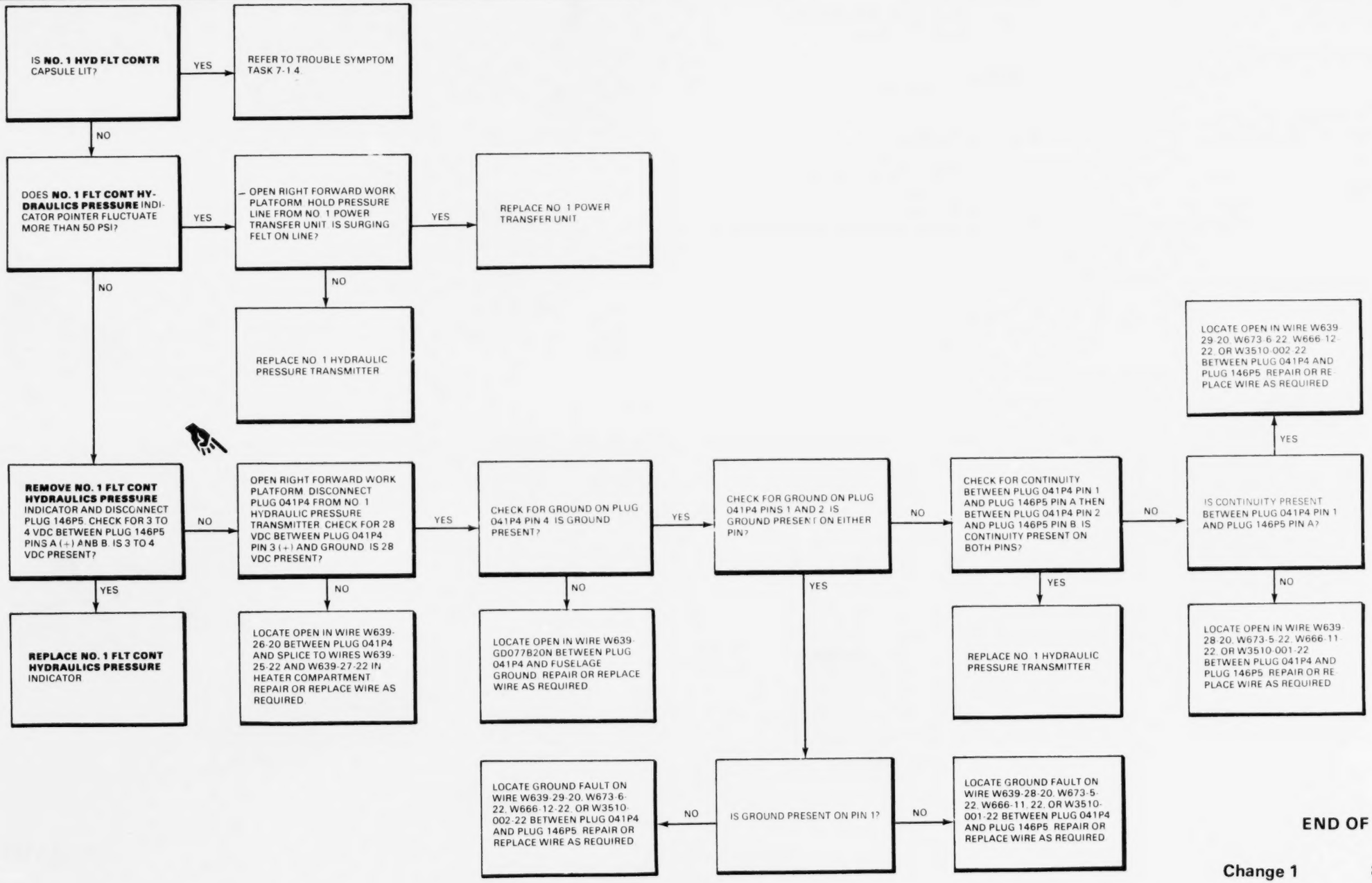
8-7.6 NO. 1 FLT CONT HYDRAULICS PRESSURE INDICATOR DOES NOT INDICATE 2500 TO 3200 PSI OR POINTER FLUCTUATES MORE THAN 50 PSI (Continued)


IS NO. 1 HYD FLT CONTR CAPSULE LIT?
YES
REFER TO TROUBLE SYMPTOM TASK 7-1.4
NO
DOES NO. 1 FLT CONT HYDRAULICS PRESSURE INDICATOR POINTER FLUCTUATE MORE THAN 50 PSI?
YES
OPEN RIGHT FORWARD WORK PLATFORM. HOLD PRESSURE LINE FROM NO. 1 POWER TRANSFER UNIT. IS SURGING FELT ON LINE?
YES
REPLACE NO. 1 POWER TRANSFER UNIT
NO
REPLACE NO. 1 HYDRAULIC PRESSURE TRANSMITTER
NO
REMOVE NO. 1 FLT CONT HYDRAULICS PRESSURE INDICATOR AND DISCONNECT PLUG 146P5. CHECK FOR 3 TO 4 VDC BETWEEN PLUG 146P5 PINS A (+) AND B. IS 3 TO 4 VDC PRESENT?
NO
OPEN RIGHT FORWARD WORK PLATFORM. DISCONNECT PLUG 041P4 FROM NO. 1 HYDRAULIC PRESSURE TRANSMITTER. CHECK FOR 28 VDC BETWEEN PLUG 041P4 PIN 3 (+) AND GROUND. IS 28 VDC PRESENT?
YES
CHECK FOR GROUND ON PLUG 041P4 PIN 4. IS GROUND PRESENT?
YES
CHECK FOR GROUND ON PLUG 041P4 PINS 1 AND 2. IS GROUND PRESENT ON EITHER PIN?
NO
CHECK FOR CONTINUITY BETWEEN PLUG 041P4 PIN 1 AND PLUG 146P5 PIN A THEN BETWEEN PLUG 041P4 PIN 2 AND PLUG 146P5 PIN B. IS CONTINUITY PRESENT ON BOTH PINS?
NO
IS CONTINUITY PRESENT BETWEEN PLUG 041P4 PIN 1 AND PLUG 146P5 PIN A?
YES
LOCATE OPEN IN WIRE W639-29-20, W673-6-22, W666-12-22, OR W3510-002-22 BETWEEN PLUG 041P4 AND PLUG 146P5. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE NO. 1 FLT CONT HYDRAULICS PRESSURE INDICATOR
NO
LOCATE OPEN IN WIRE W639-26-20 BETWEEN PLUG 041P4 AND SPLICE TO WIRES W639-25-22 AND W639-27-22 IN HEATER COMPARTMENT. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W639-GD077B20N BETWEEN PLUG 041P4 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE NO. 1 HYDRAULIC PRESSURE TRANSMITTER
YES
IS CONTINUITY PRESENT BETWEEN PLUG 041P4 PIN 1 AND PLUG 146P5 PIN A?
NO
LOCATE OPEN IN WIRE W639-28-20, W673-5-22, W666-11-22, OR W3510-001-22 BETWEEN PLUG 041P4 AND PLUG 146P5. REPAIR OR REPLACE WIRE AS REQUIRED
YES
IS GROUND PRESENT ON PIN 1?
NO
LOCATE GROUND FAULT ON WIRE W639-29-20, W673-6-22, W666-12-22, OR W3510-002-22 BETWEEN PLUG 041P4 AND PLUG 146P5. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE GROUND FAULT ON WIRE W639-28-20, W673-5-22, W666-11, 22, OR W3510-001-22 BETWEEN PLUG 041P4 AND PLUG 146P5. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-7.7 NO. 2 FLT CONT HYDRAULICS PRESSURE INDICATOR DOES NOT INDICATE 2500 TO 3200 PSI OR POINTER FLUCTUATES MORE THAN 50 PSI

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

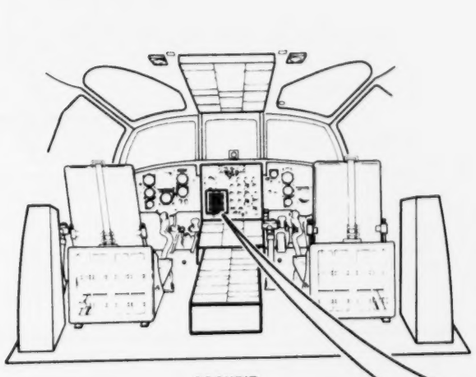
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

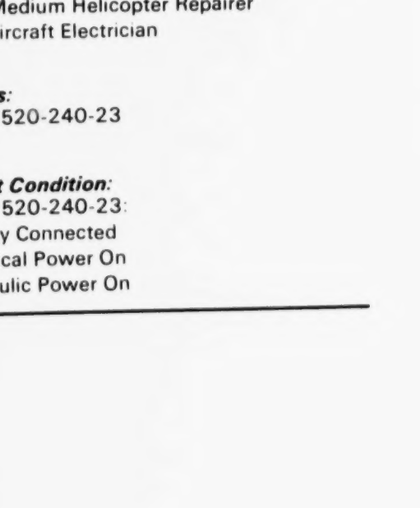
Materials:
None

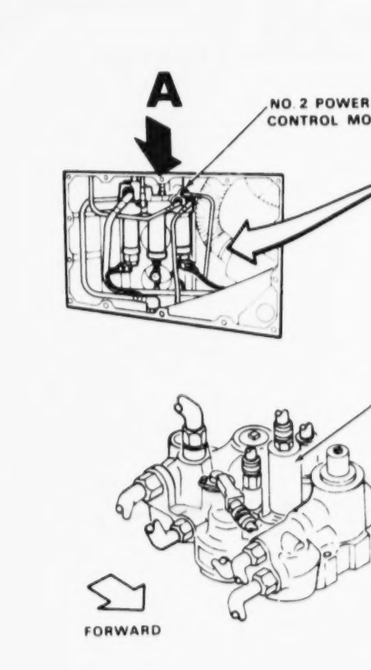
Personnel Required:
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

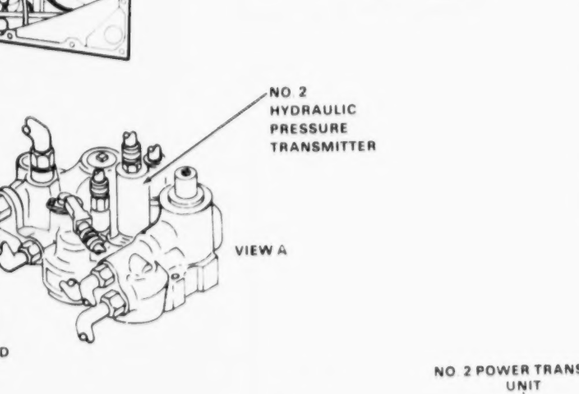
References:
TM 55-1520-240-23

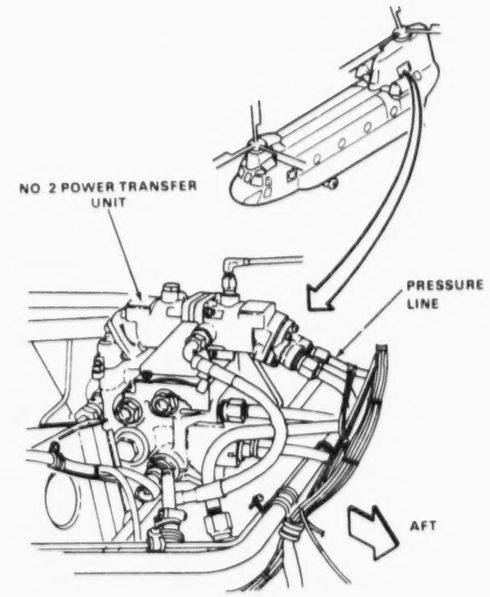
Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power On











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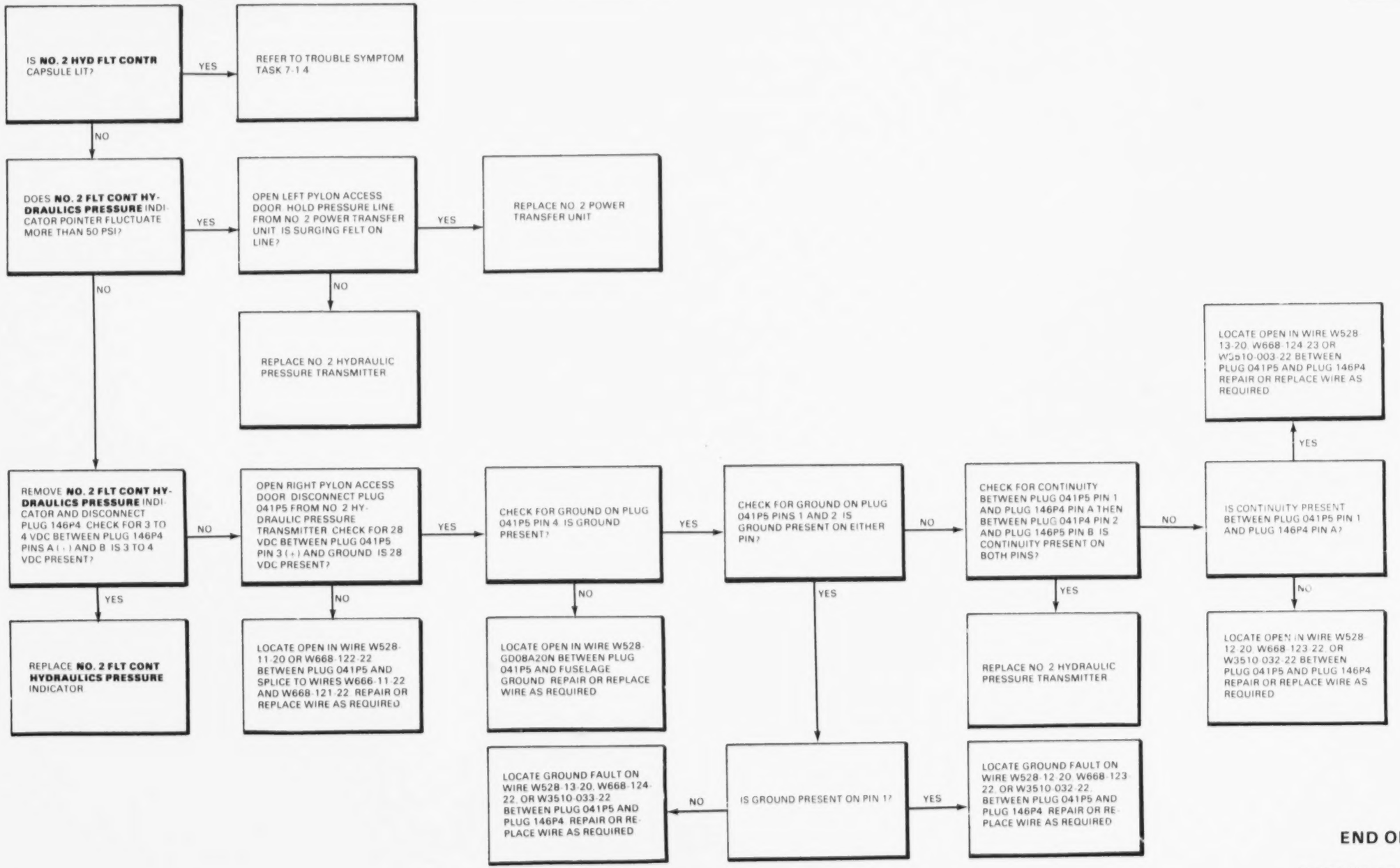
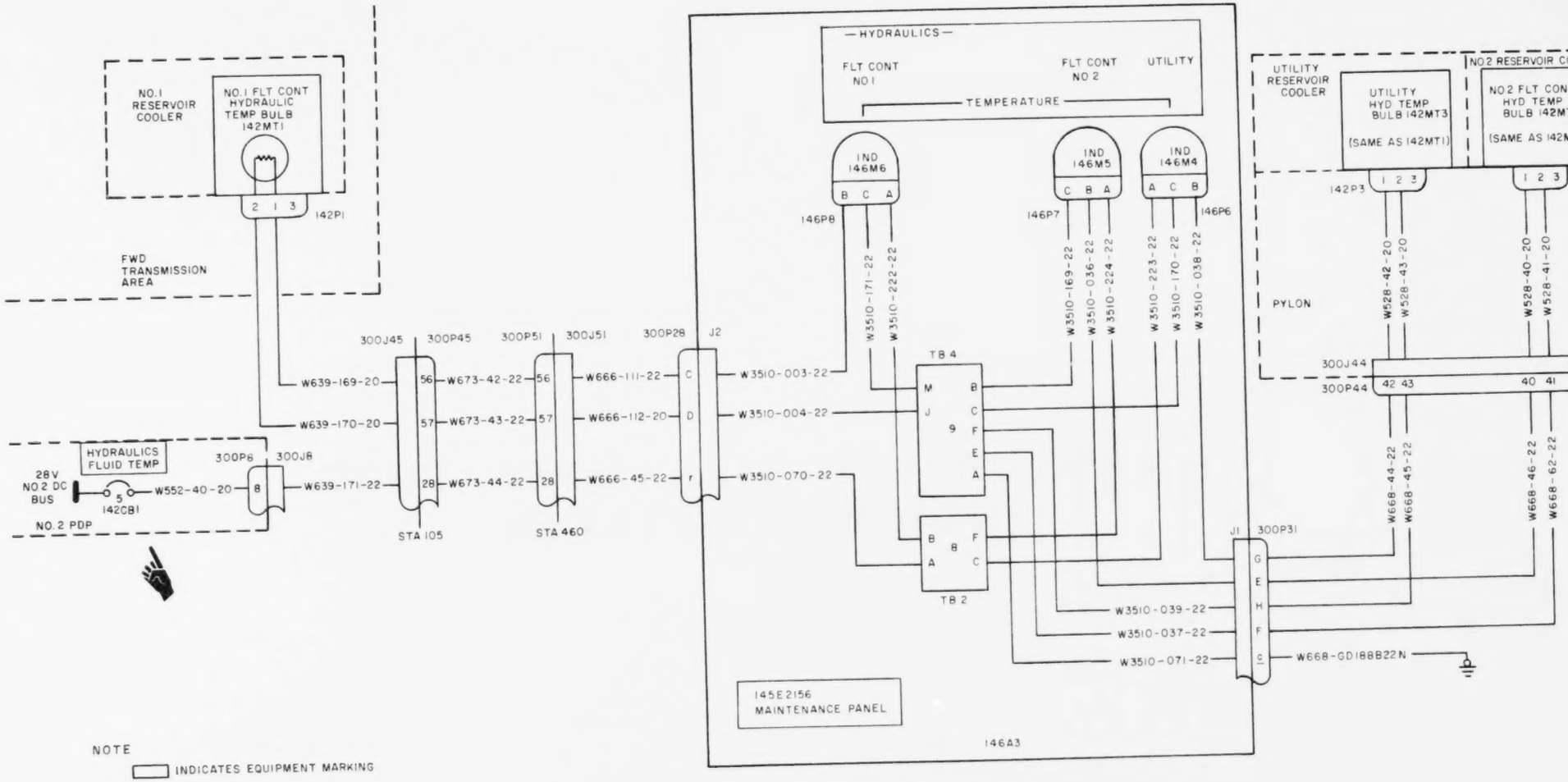
8-7.7 NO. 2 FLT CONT HYDRAULICS PRESSURE INDICATOR DOES NOT INDICATE 2500 TO 3200 PSI OR POINTER FLUCTUATES MORE THAN 50 PSI (Continued)


IS NO. 2 HYD FLT CONTR CAPSULE LIT?
YES
REFER TO TROUBLE SYMPTOM TASK 7-1-4
NO
DOES NO. 2 FLT CONT HYDRAULICS PRESSURE INDICATOR POINTER FLUCTUATE MORE THAN 50 PSI?
YES
OPEN LEFT PYLON ACCESS DOOR. HOLD PRESSURE LINE FROM NO. 2 POWER TRANSFER UNIT. IS SURGING FELT ON LINE?
YES
REPLACE NO. 2 POWER TRANSFER UNIT
NO
REPLACE NO. 2 HYDRAULIC PRESSURE TRANSMITTER
NO
REMOVE NO. 2 FLT CONT HYDRAULICS PRESSURE INDICATOR AND DISCONNECT PLUG 146P4. CHECK FOR 3 TO 4 VDC BETWEEN PLUG 146P4 PINS A (-) AND B. IS 3 TO 4 VDC PRESENT?
NO
OPEN RIGHT PYLON ACCESS DOOR. DISCONNECT PLUG 041P5 FROM NO. 2 HYDRAULIC PRESSURE TRANSMITTER. CHECK FOR 28 VDC BETWEEN PLUG 041P5 PIN 3 (+) AND GROUND. IS 28 VDC PRESENT?
YES
CHECK FOR GROUND ON PLUG 041P5 PIN 4. IS GROUND PRESENT?
YES
CHECK FOR GROUND ON PLUG 041P5 PINS 1 AND 2. IS GROUND PRESENT ON EITHER PIN?
NO
CHECK FOR CONTINUITY BETWEEN PLUG 041P5 PIN 1 AND PLUG 146P4 PIN A THEN BETWEEN PLUG 041P4 PIN 2 AND PLUG 146P5 PIN B. IS CONTINUITY PRESENT ON BOTH PINS?
NO
IS CONTINUITY PRESENT BETWEEN PLUG 041P5 PIN 1 AND PLUG 146P4 PIN A?
YES
LOCATE OPEN IN WIRE W528-13-20, W668-124-23 OR W5510-003-22 BETWEEN PLUG 041P5 AND PLUG 146P4. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE NO. 2 HYDRAULIC PRESSURE INDICATOR
NO
LOCATE OPEN IN WIRE W528-11-20 OR W668-122-22 BETWEEN PLUG 041P5 AND SPLICE TO WIRES W666-11-22 AND W668-121-22. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W528-GD08A20N BETWEEN PLUG 041P5 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE NO. 2 HYDRAULIC PRESSURE TRANSMITTER
NO
LOCATE OPEN IN WIRE W528-12-20, W668-123-22 OR W3510-032-22 BETWEEN PLUG 041P5 AND PLUG 146P4. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE GROUND FAULT ON WIRE W528-13-20, W668-124-22, OR W3510-033-22 BETWEEN PLUG 041P5 AND PLUG 146P4. REPAIR OR REPLACE WIRE AS REQUIRED
NO
IS GROUND PRESENT ON PIN 1?
YES
LOCATE GROUND FAULT ON WIRE W528-12-20, W668-123-22, OR W3510-032-22, BETWEEN PLUG 041P5 AND PLUG 146P4. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-8 HYDRAULIC OIL TEMPERATURE INDICATING SYSTEM


NO.1 RESERVOIR COOLER
NO.1 FLT CONT HYDRAULIC TEMP BULB 142MT1
2 1 3
142P1
FWD TRANSMISSION AREA
HYDRAULICS FLUID TEMP
28V NO.2 DC BUS
142CB1
NO.2 PDP
300P8
300J8
W552-40-20
W639-169-20
W639-170-20
W639-171-22
300J45
300P45
300P51
300J51
300P28
J2
W673-42-22
W673-43-22
W673-44-22
W666-111-22
W666-112-20
W666-45-22
STA 105
STA 460
W3510-003-22
W3510-004-22
W3510-070-22
HYDRAULICS
FLT CONT NO.1
FLT CONT NO.2
UTILITY
TEMPERATURE
IND 146M6
IND 146M5
IND 146M4
146P8
146P7
146P6
W3510-171-22
W3510-222-22
W3510-169-22
W3510-036-22
W3510-224-22
W3510-223-22
W3510-170-22
W3510-038-22
TB4
TB2
W3510-039-22
W3510-037-22
W3510-071-22
J1
300P31
W668-GD188B22N
145E2156 MAINTENANCE PANEL
146A3
UTILITY RESERVOIR COOLER
UTILITY HYD TEMP BULB 142MT3
(SAME AS 142MT1)
NO.2 RESERVOIR COOLER
NO.2 FLT CONT HYD TEMP BULB 142MT2
(SAME AS 142MT1)
142P3
142P2
PYLON
W528-42-20
W528-43-20
W528-40-20
W528-41-20
300J44
300P44
WL 72
W668-44-22
W668-45-22
W668-46-22
W668-62-22
NOTE
INDICATES EQUIPMENT MARKING
142.100F
341

8-8.2 HYDRAULIC OIL TEMPERATURE INDICATING SYSTEM VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Aircraft Mechanic's Tool Kit,
NSN 5180-00-323-4692

Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer

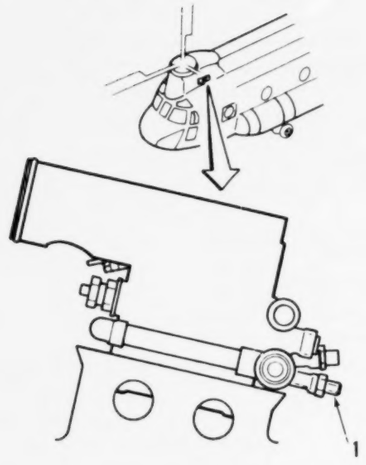
References:
TM 55-1520-240-23

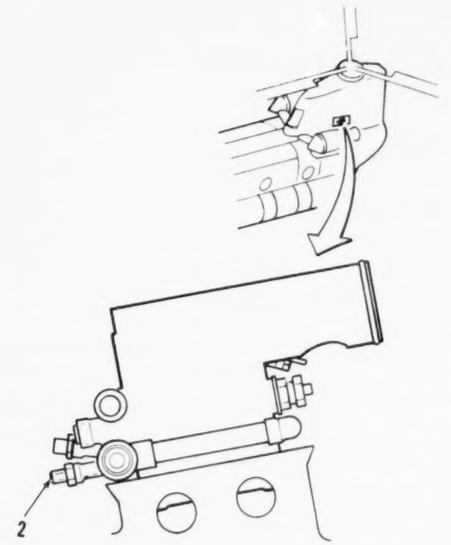
Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Right Forward Work Platform Open
Pylon Left and Right Access Panels Open

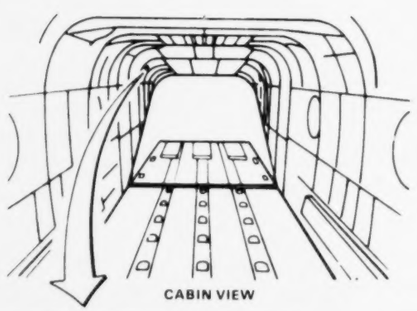
TASK	RESULT
1. **Check No. 1 hydraulic oil temperature transmitter (1).**	If transmitter (1) is loose or damaged, tighten or replace it as required. If wiring or connector to transmitter is damaged, repair or replace it as required.
2. **Check No. 2 hydraulic oil temperature transmitter (2).**	If transmitter (2) is loose or damaged, tighten or replace it as required. If wiring or connector to transmitter is damaged, repair or replace it as required.
3. **Check utility hydraulic oil temperature transmitter (3).**	If transmitter (3) is loose damaged, tighten or replace it as required. If wiring or connector to transmitter is damaged, repair or replace it as required.
4. **Check HYDRAULICS TEMPERATURE indicators (4, 5, and 6).**	If any indicator (4, 5, 6) is loose or damaged, tighten or replace it as required.

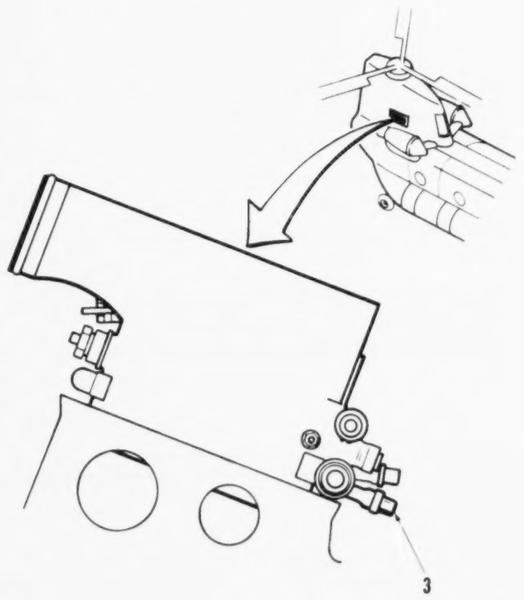
FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23:
Close Right Forward Work Platform
Close Left and Right Access Panels









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DI45-7292-SPA

END OF TASK

8-8.3 HYDRAULIC OIL TEMPERATURE INDICATING SYSTEM OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
None

Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer
67U20 Medium Helicopter Repairer

References:
TM 55-1520-240-23

Equipment Conditions:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power On
Hydraulic Oil Temperature Indicating System Visual Check Performed (Task 8-8.2)

TASK	RESULT
1. **Check** that **HYDRAULICS FLUID TEMP circuit breaker (1)** is closed.	If circuit breaker (1) is open, close it. If it opens again, go to task 8-8.4.
2. **Check UTILITY HYDRAULICS TEMPERATURE indicator (2).**	Pointer on indicator (2) shall move upscale as fluid temperature increases. Temperature indication shall not exceed 120°C. If indicator pointer does not move upscale or pointer exceeds 120°C, go to task 8-8.5.
3. **Set POWER XFR NO. 1 switch (3) to ON. Check NO. 1 FLT CONT HYDRAULICS temperature indicator (4).**	Pointer on indicator (4) shall move upscale as fluid temperature increases. Temperature indication shall not exceed 120°C. If indicator pointer does not move upscale or pointer exceeds 120°C, go to task 8-8.6.
4. **Set POWER XFR NO. 1 switch (3) to OFF.**	
5. **Set POWER XFR NO. 2 switch (5) to ON. Check NO. 2 FLT CONT HYDRAULICS TEMPERATURE indicator (6).**	Pointer on indicator (6) shall move upscale as fluid temperature increases. Temperature indication shall not exceed 120°C. If indicator pointer does not move upscale or pointer exceeds 120°C, go to task 8-8.7.
6. Set POWER XFR NO. 2 switch (5) to OFF.	

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

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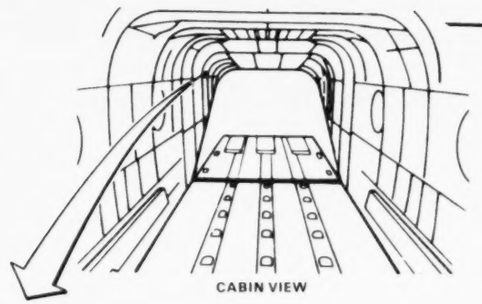

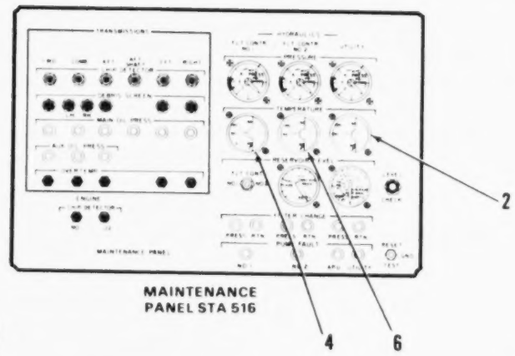

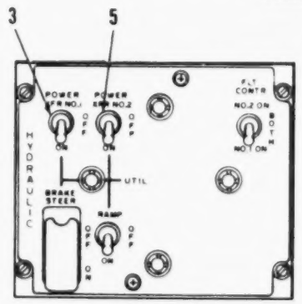

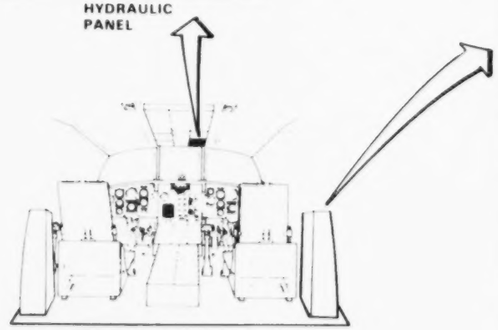

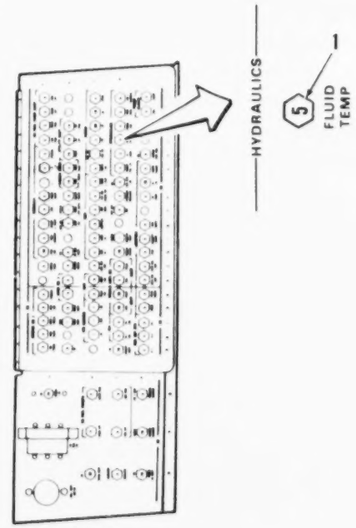

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END OF TASK

8-8.4 HYDRAULIC FLUID TEMP CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

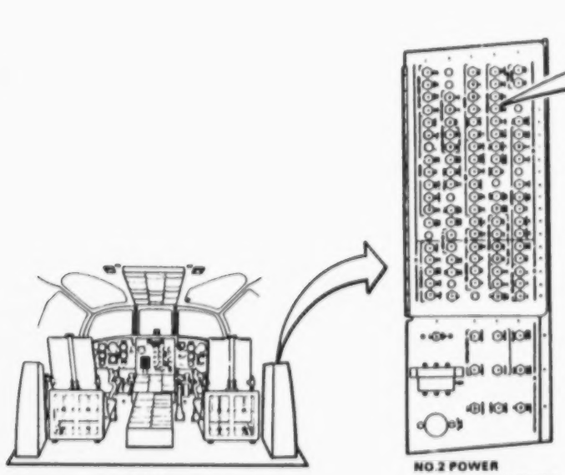
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



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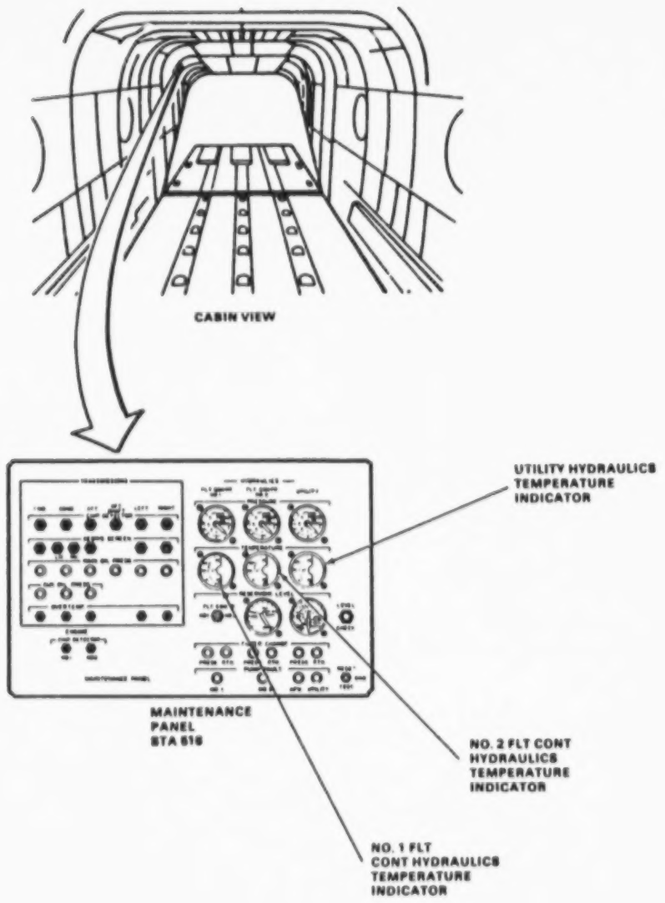
CABIN VIEW
UTILITY HYDRAULICS TEMPERATURE INDICATOR
MAINTENANCE PANEL STA 519
NO. 2 FLT CONT HYDRAULICS TEMPERATURE INDICATOR
NO. 1 FLT CONT HYDRAULICS TEMPERATURE INDICATOR

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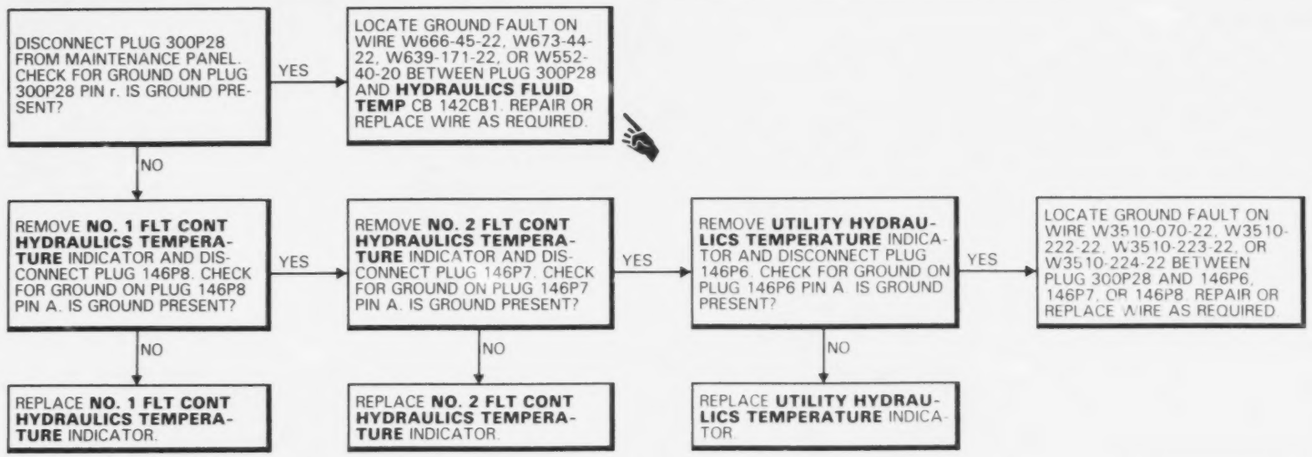
8-8.4 HYDRAULIC FLUID TEMP CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)


DISCONNECT PLUG 300P28 FROM MAINTENANCE PANEL. CHECK FOR GROUND ON PLUG 300P28 PIN r. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W666-45-22, W673-44-22, W639-171-22, OR W552-40-20 BETWEEN PLUG 300P28 AND **HYDRAULICS FLUID TEMP** CB 142CB1. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE **NO. 1 FLT CONT HYDRAULICS TEMPERATURE** INDICATOR AND DISCONNECT PLUG 146P8. CHECK FOR GROUND ON PLUG 146P8 PIN A. IS GROUND PRESENT?
YES
REMOVE **NO. 2 FLT CONT HYDRAULICS TEMPERATURE** INDICATOR AND DISCONNECT PLUG 146P7. CHECK FOR GROUND ON PLUG 146P7 PIN A. IS GROUND PRESENT?
YES
REMOVE **UTILITY HYDRAULICS TEMPERATURE** INDICATOR AND DISCONNECT PLUG 146P6. CHECK FOR GROUND ON PLUG 146P6 PIN A. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W3510-070-22, W3510-222-22, W3510-223-22, OR W3510-224-22 BETWEEN PLUG 300P28 AND 146P6, 146P7, OR 146P8. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE **NO. 1 FLT CONT HYDRAULICS TEMPERATURE** INDICATOR.
NO
REPLACE **NO. 2 FLT CONT HYDRAULICS TEMPERATURE** INDICATOR.
NO
REPLACE **UTILITY HYDRAULICS TEMPERATURE** INDICATOR.

END OF TASK

8-8.5 UTILITY HYDRAULICS TEMPERATURE INDICATOR POINTER DOES NOT MOVE UPSCALE OR EXCEEDS 120° C (PEGS)

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

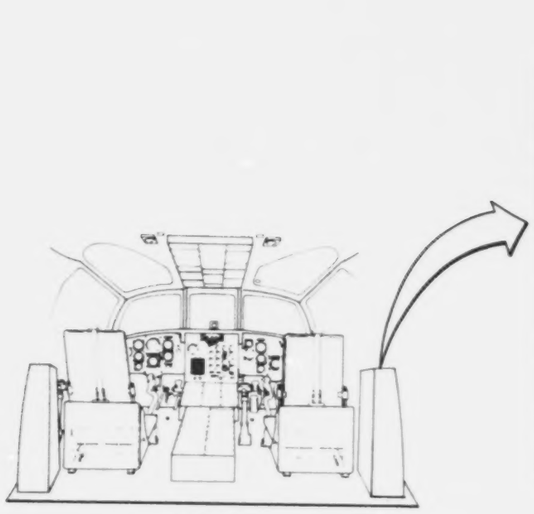
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

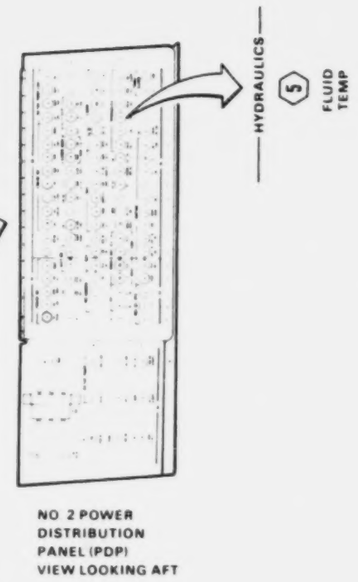
Materials:
Jumper Wire, 12 Inches

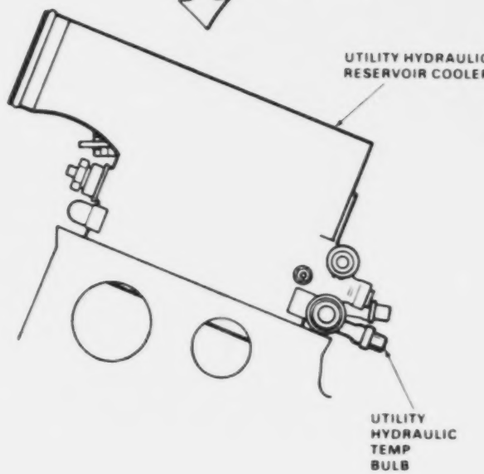
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

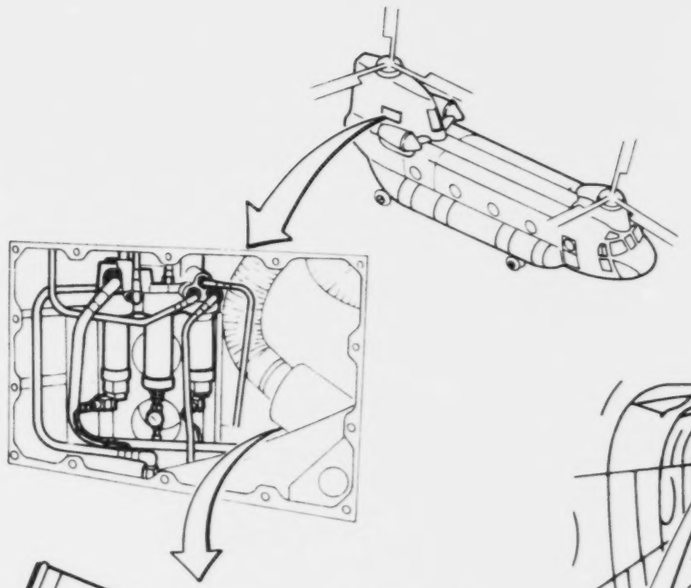
References:
TM 55-1520-240-23

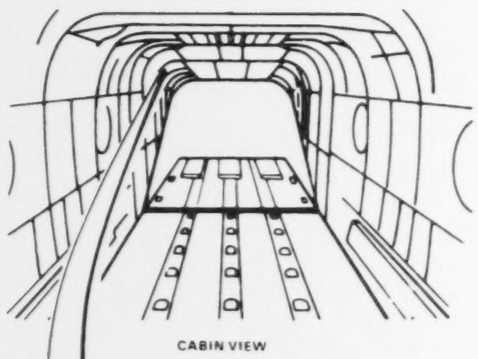
Equipment Condition:
TM 55-1520-240-23.
Battery Connected
Electrical Power On
Hydraulics Power Off

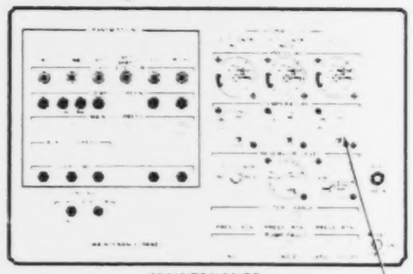












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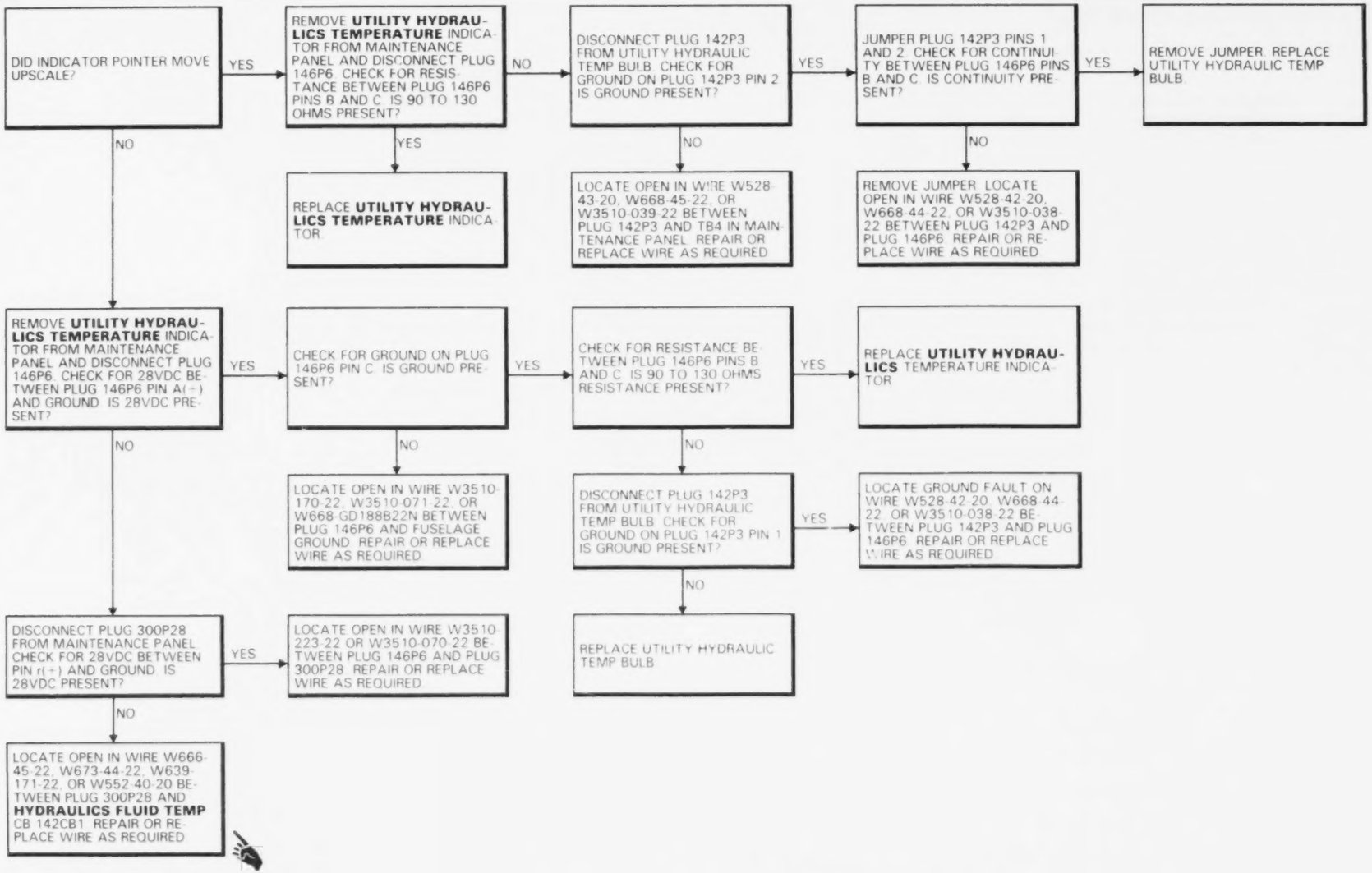
8-8.5 UTILITY HYDRAULICS TEMPERATURE INDICATOR POINTER DOES NOT MOVE UPSCALE OR EXCEEDS 120°C (PEGS) (Continued)


DID INDICATOR POINTER MOVE UPSCALE?
YES
REMOVE **UTILITY HYDRAULICS TEMPERATURE** INDICATOR FROM MAINTENANCE PANEL AND DISCONNECT PLUG 146P6. CHECK FOR RESISTANCE BETWEEN PLUG 146P6 PINS B AND C. IS 90 TO 130 OHMS PRESENT?
NO
DISCONNECT PLUG 142P3 FROM UTILITY HYDRAULIC TEMP BULB. CHECK FOR GROUND ON PLUG 142P3 PIN 2. IS GROUND PRESENT?
YES
JUMPER PLUG 142P3 PINS 1 AND 2. CHECK FOR CONTINUITY BETWEEN PLUG 146P6 PINS B AND C. IS CONTINUITY PRESENT?
YES
REMOVE JUMPER. REPLACE UTILITY HYDRAULIC TEMP BULB.
NO
REMOVE JUMPER. LOCATE OPEN IN WIRE W528-42-20, W668-44-22, OR W3510-038-22 BETWEEN PLUG 142P3 AND PLUG 146P6. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W528-43-20, W668-45-22, OR W3510-039-22 BETWEEN PLUG 142P3 AND TB4 IN MAINTENANCE PANEL. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE **UTILITY HYDRAULICS TEMPERATURE** INDICATOR.
NO
REMOVE **UTILITY HYDRAULICS TEMPERATURE** INDICATOR FROM MAINTENANCE PANEL AND DISCONNECT PLUG 146P6. CHECK FOR 28VDC BETWEEN PLUG 146P6 PIN A(+) AND GROUND. IS 28VDC PRESENT?
YES
CHECK FOR GROUND ON PLUG 146P6 PIN C. IS GROUND PRESENT?
YES
CHECK FOR RESISTANCE BETWEEN PLUG 146P6 PINS B AND C. IS 90 TO 130 OHMS RESISTANCE PRESENT?
YES
REPLACE **UTILITY HYDRAULICS** TEMPERATURE INDICATOR.
NO
DISCONNECT PLUG 142P3 FROM UTILITY HYDRAULIC TEMP BULB. CHECK FOR GROUND ON PLUG 142P3 PIN 1. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W528-42-20, W668-44-22, OR W3510-038-22 BETWEEN PLUG 142P3 AND PLUG 146P6. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE UTILITY HYDRAULIC TEMP BULB.
NO
LOCATE OPEN IN WIRE W3510-170-22, W3510-071-22, OR W668-GD188B22N BETWEEN PLUG 146P6 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
DISCONNECT PLUG 300P28 FROM MAINTENANCE PANEL. CHECK FOR 28VDC BETWEEN PIN r(+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W3510-223-22 OR W3510-070-22 BETWEEN PLUG 146P6 AND PLUG 300P28. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W666-45-22, W673-44-22, W639-171-22, OR W552-40-20 BETWEEN PLUG 300P28 AND **HYDRAULICS FLUID TEMP** CB 142CB1. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

8-8.6 NO. 1 FLT CONT HYDRAULIC TEMPERATURE INDICATOR POINTER DOES NOT MOVE UPSCALE OR EXCEEDS 120° C (PEGS)

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

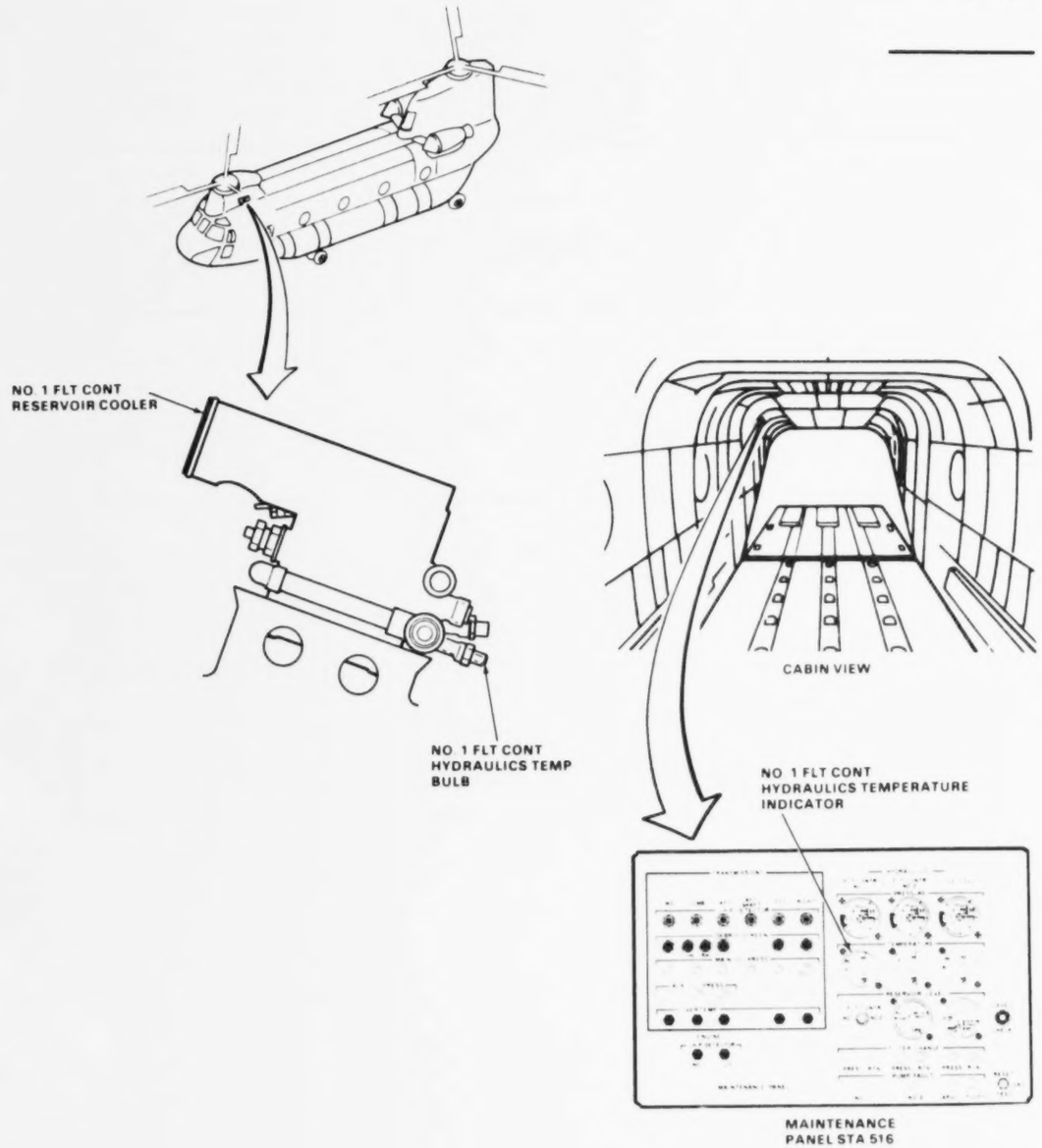
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
Jumper Wire, 12 Inches

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulics Power Off


NO. 1 FLT CONT RESERVOIR COOLER
NO. 1 FLT CONT HYDRAULICS TEMP BULB
CABIN VIEW
NO. 1 FLT CONT HYDRAULICS TEMPERATURE INDICATOR
MAINTENANCE PANEL STA 516

45x54

DI45-7296-SPA

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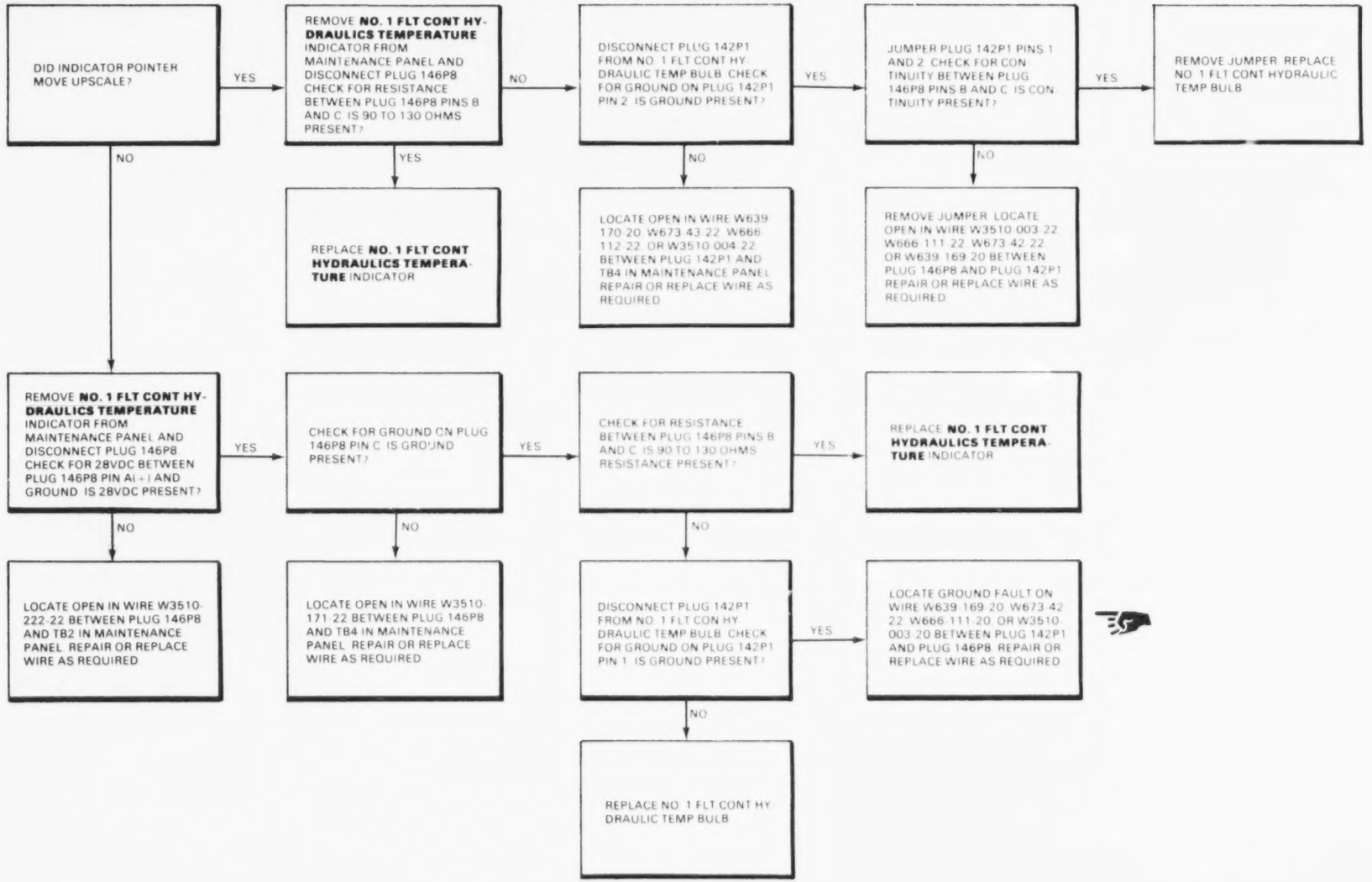
8-8.6 NO. 1 FLT CONT HYDRAULICS TEMPERATURE INDICATOR POINTER DOES NOT MOVE UPSCALE OR EXCEEDS 120° (PEGS) (Continued)


DID INDICATOR POINTER MOVE UPSCALE?
YES
REMOVE NO. 1 FLT CONT HYDRAULICS TEMPERATURE INDICATOR FROM MAINTENANCE PANEL AND DISCONNECT PLUG 146P8 CHECK FOR RESISTANCE BETWEEN PLUG 146P8 PINS B AND C IS 90 TO 130 OHMS PRESENT?
NO
DISCONNECT PLUG 142P1 FROM NO. 1 FLT CONT HYDRAULIC TEMP BULB. CHECK FOR GROUND ON PLUG 142P1 PIN 2. IS GROUND PRESENT?
YES
JUMPER PLUG 142P1 PINS 1 AND 2. CHECK FOR CONTINUITY BETWEEN PLUG 146P8 PINS B AND C. IS CONTINUITY PRESENT?
YES
REMOVE JUMPER. REPLACE NO. 1 FLT CONT HYDRAULIC TEMP BULB
NO
REPLACE NO. 1 FLT CONT HYDRAULICS TEMPERATURE INDICATOR
YES
LOCATE OPEN IN WIRE W639-170-20, W673-43-22, W666-112-22, OR W3510-004-22 BETWEEN PLUG 142P1 AND TB4 IN MAINTENANCE PANEL. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REMOVE JUMPER. LOCATE OPEN IN WIRE W3510-003-22, W666-111-22, W673-42-22, OR W639-169-20 BETWEEN PLUG 146P8 AND PLUG 142P1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REMOVE NO. 1 FLT CONT HYDRAULICS TEMPERATURE INDICATOR FROM MAINTENANCE PANEL AND DISCONNECT PLUG 146P8. CHECK FOR 28VDC BETWEEN PLUG 146P8 PIN A(+) AND GROUND. IS 28VDC PRESENT?
YES
CHECK FOR GROUND ON PLUG 146P8 PIN C. IS GROUND PRESENT?
YES
CHECK FOR RESISTANCE BETWEEN PLUG 146P8 PINS B AND C. IS 90 TO 130 OHMS RESISTANCE PRESENT?
YES
REPLACE NO. 1 FLT CONT HYDRAULICS TEMPERATURE INDICATOR
NO
LOCATE OPEN IN WIRE W3510-222-22 BETWEEN PLUG 146P8 AND TB2 IN MAINTENANCE PANEL. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W3510-171-22 BETWEEN PLUG 146P8 AND TB4 IN MAINTENANCE PANEL. REPAIR OR REPLACE WIRE AS REQUIRED
NO
DISCONNECT PLUG 142P1 FROM NO. 1 FLT CON HYDRAULIC TEMP BULB. CHECK FOR GROUND ON PLUG 142P1 PIN 1. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W639-169-20, W673-42-22, W666-111-20, OR W3510-003-20 BETWEEN PLUG 142P1 AND PLUG 146P8. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE NO. 1 FLT CONT HYDRAULIC TEMP BULB

END OF TASK

8-8.7 NO. 2 FLT CONT HYDRAULICS TEMPERATURE INDICATOR POINTER DOES NOT MOVE UPSCALE OR EXCEEDS 120°C (PEGS)

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

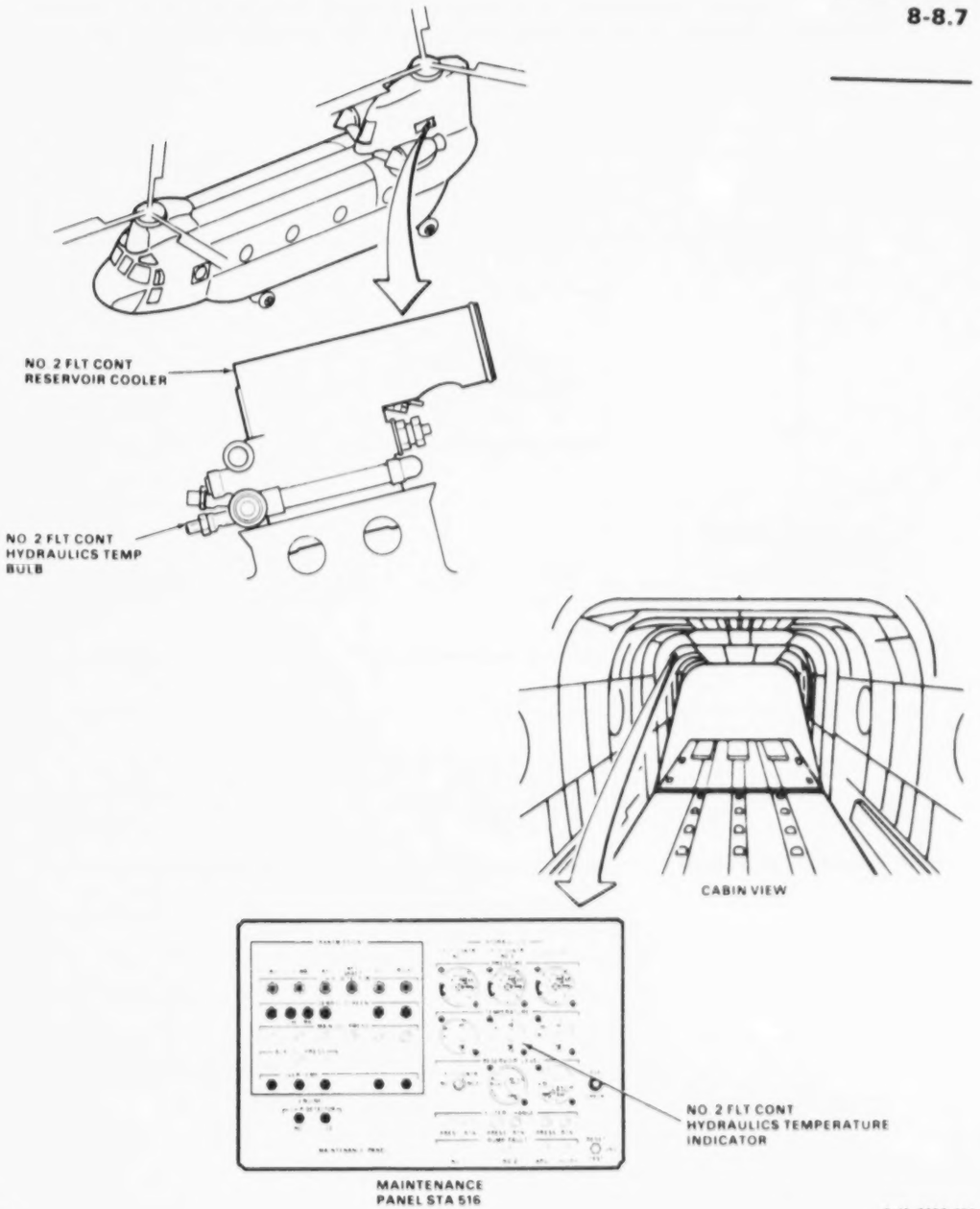
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
Jumper Wire, 12 Inches

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



45x54

D145-7297-SP4

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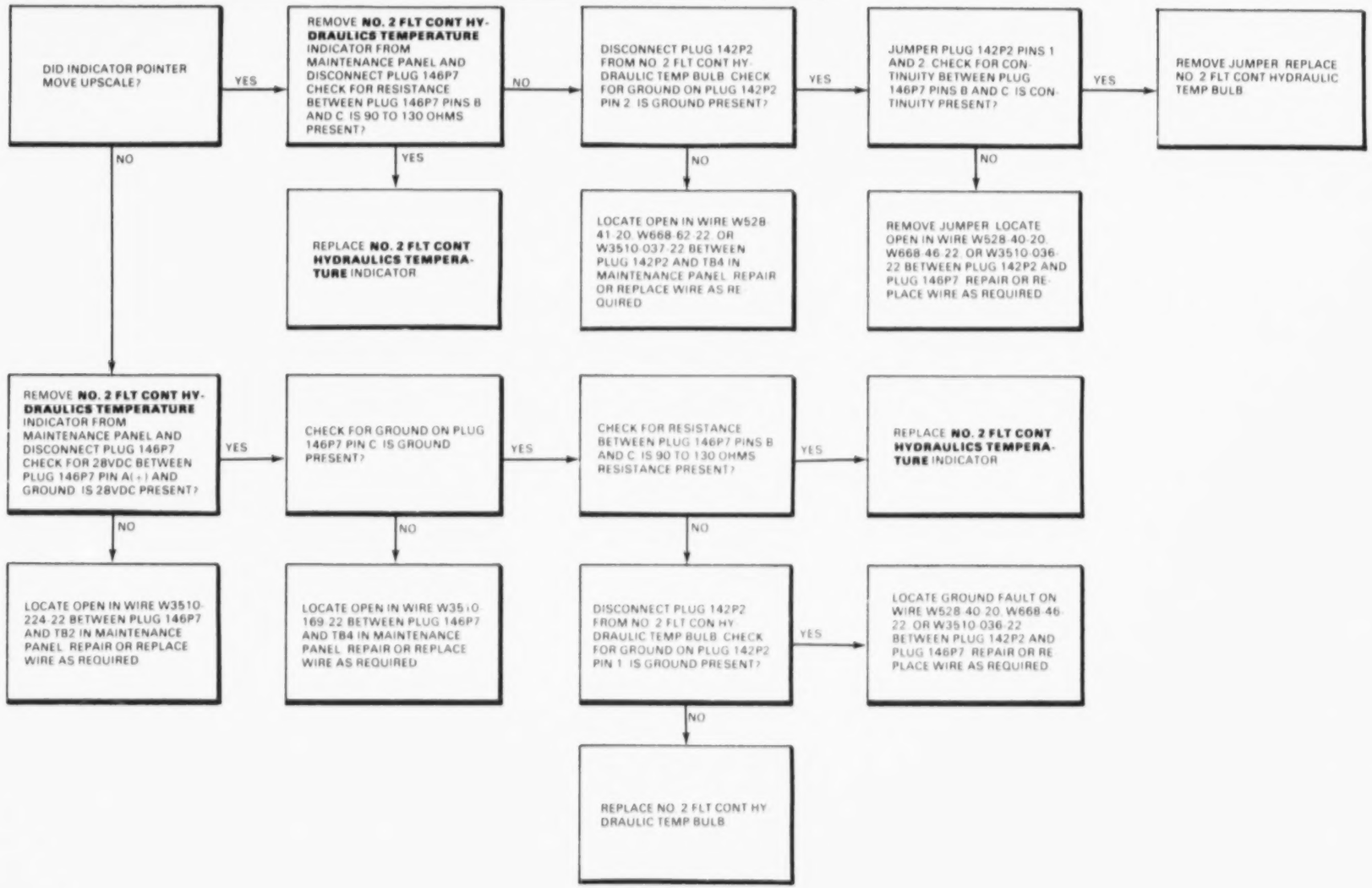
8-8.7 NO. 2 FLT CONT HYDRAULICS TEMPERATURE INDICATOR POINTER DOES NOT MOVE UPSCALE OR EXCEEDS 120°C (PEGS) (Continued)

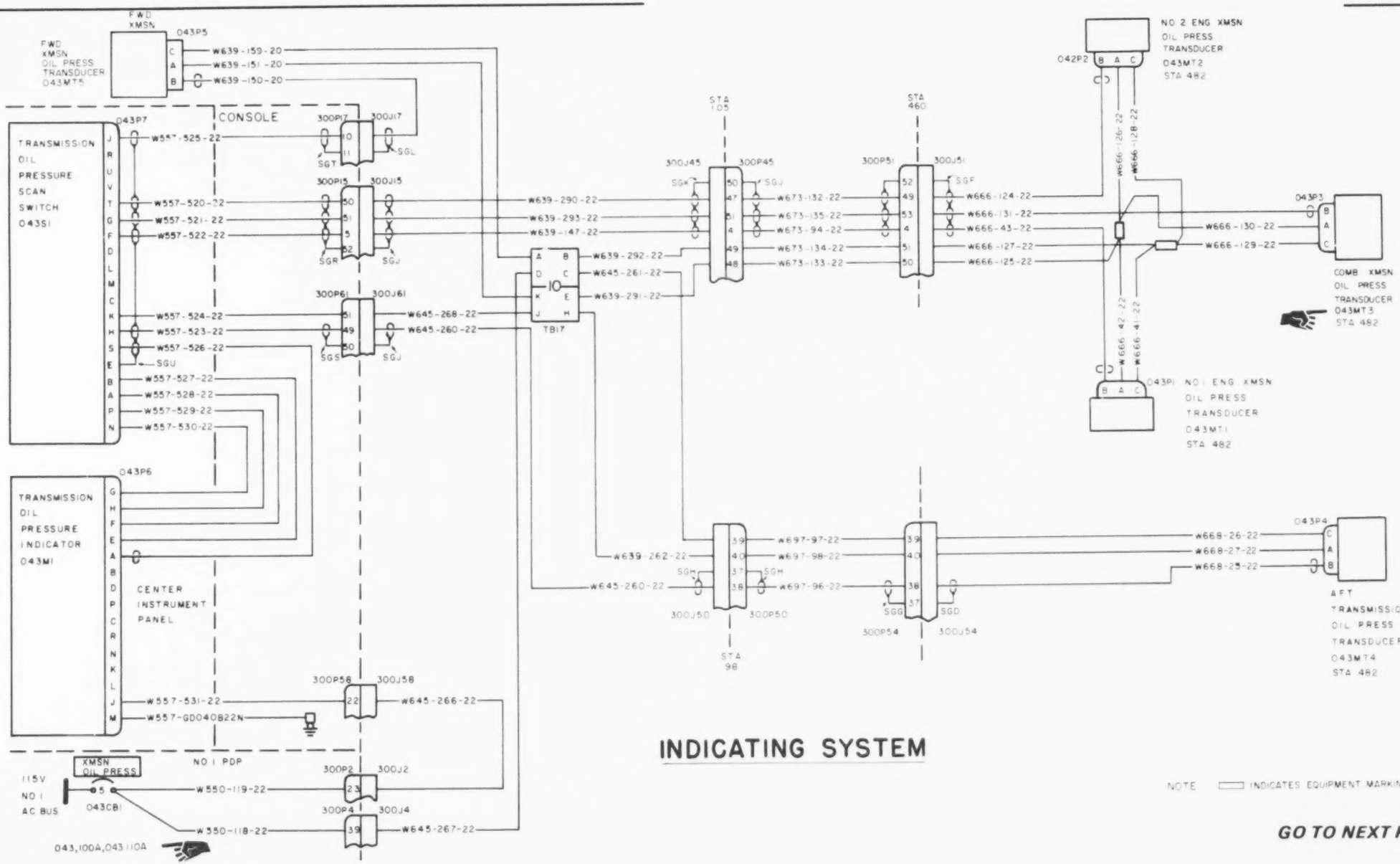

DID INDICATOR POINTER MOVE UPSCALE?
YES
REMOVE NO. 2 FLT CONT HYDRAULICS TEMPERATURE INDICATOR FROM MAINTENANCE PANEL AND DISCONNECT PLUG 146P7 CHECK FOR RESISTANCE BETWEEN PLUG 146P7 PINS B AND C IS 90 TO 130 OHMS PRESENT?
NO
DISCONNECT PLUG 142P2 FROM NO. 2 FLT CONT HYDRAULIC TEMP BULB. CHECK FOR GROUND ON PLUG 142P2 PIN 2. IS GROUND PRESENT?
YES
JUMPER PLUG 142P2 PINS 1 AND 2. CHECK FOR CONTINUITY BETWEEN PLUG 146P7 PINS B AND C. IS CONTINUITY PRESENT?
YES
REMOVE JUMPER. REPLACE NO. 2 FLT CONT HYDRAULIC TEMP BULB.
YES
REPLACE NO. 2 FLT CONT HYDRAULICS TEMPERATURE INDICATOR.
NO
LOCATE OPEN IN WIRE W528-41-20, W668-62-22, OR W3510-037-22 BETWEEN PLUG 142P2 AND TB4 IN MAINTENANCE PANEL. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE JUMPER. LOCATE OPEN IN WIRE W528-40-20, W668-46-22, OR W3510-036-22 BETWEEN PLUG 142P2 AND PLUG 146P7. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE NO. 2 FLT CONT HYDRAULICS TEMPERATURE INDICATOR FROM MAINTENANCE PANEL AND DISCONNECT PLUG 146P7 CHECK FOR 28VDC BETWEEN PLUG 146P7 PIN A(+) AND GROUND. IS 28VDC PRESENT?
YES
CHECK FOR GROUND ON PLUG 146P7 PIN C. IS GROUND PRESENT?
YES
CHECK FOR RESISTANCE BETWEEN PLUG 146P7 PINS B AND C. IS 90 TO 130 OHMS RESISTANCE PRESENT?
YES
REPLACE NO. 2 FLT CONT HYDRAULICS TEMPERATURE INDICATOR.
NO
LOCATE OPEN IN WIRE W3510-224-22 BETWEEN PLUG 146P7 AND TB2 IN MAINTENANCE PANEL. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W3510-169-22 BETWEEN PLUG 146P7 AND TB4 IN MAINTENANCE PANEL. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
DISCONNECT PLUG 142P2 FROM NO. 2 FLT CON HYDRAULIC TEMP BULB. CHECK FOR GROUND ON PLUG 142P2 PIN 1. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W528-40-20, W668-46-22, OR W3510-036-22 BETWEEN PLUG 142P2 AND PLUG 146P7. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE NO. 2 FLT CONT HYDRAULIC TEMP BULB.

END OF TASK

8-9 TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM

8-9 TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM

8-9.1 TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM WIRING DIAGRAM



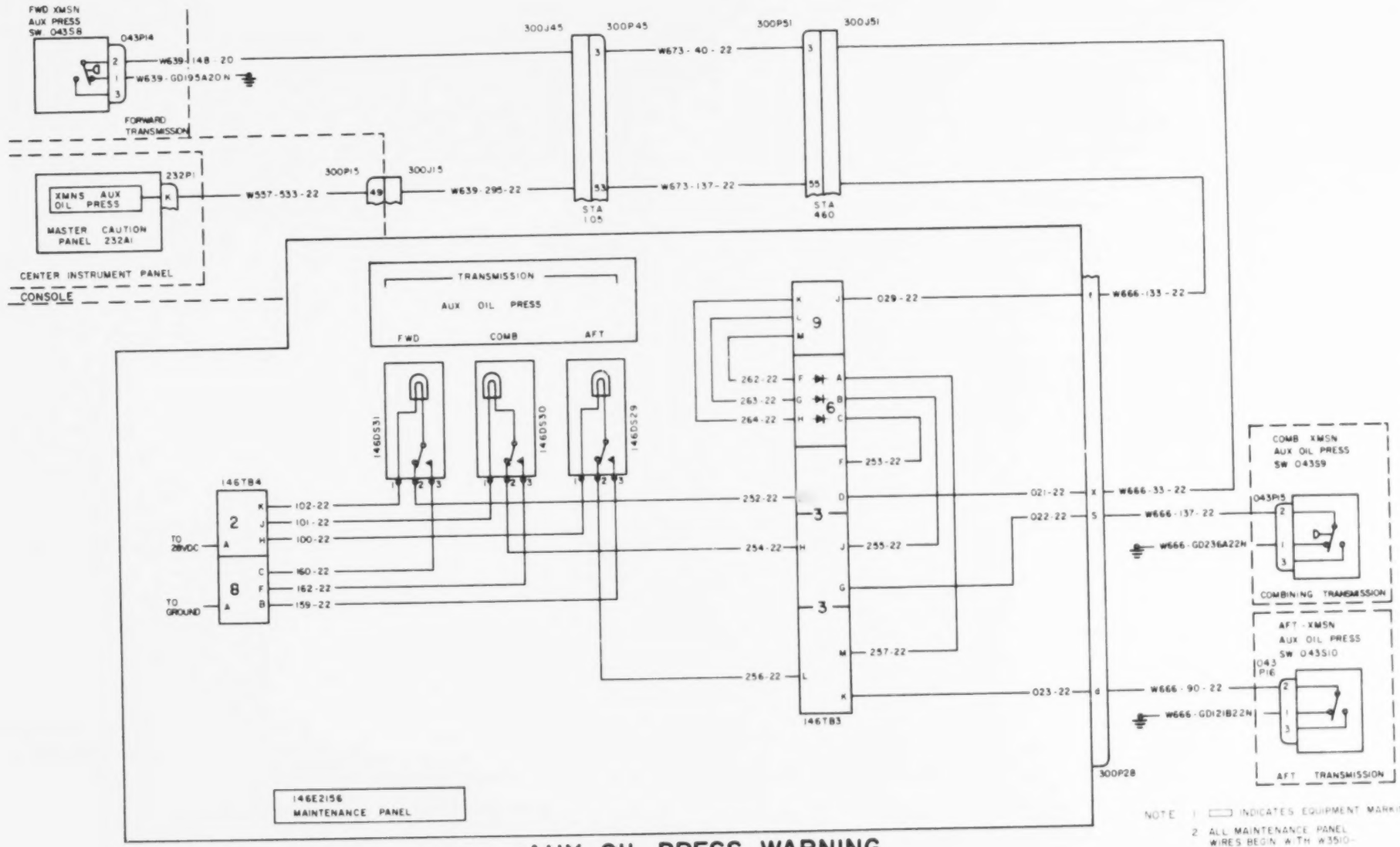
INDICATING SYSTEM

NOTE ▭ INDICATES EQUIPMENT MARKING

342

GO TO NEXT PAGE

8-9.1 TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM WIRING DIAGRAM (Continued)



NOTE 1. ▭ INDICATES EQUIPMENT MARKING
2. ALL MAINTENANCE PANEL WIRES BEGIN WITH W351O-

D145-9006-SPA

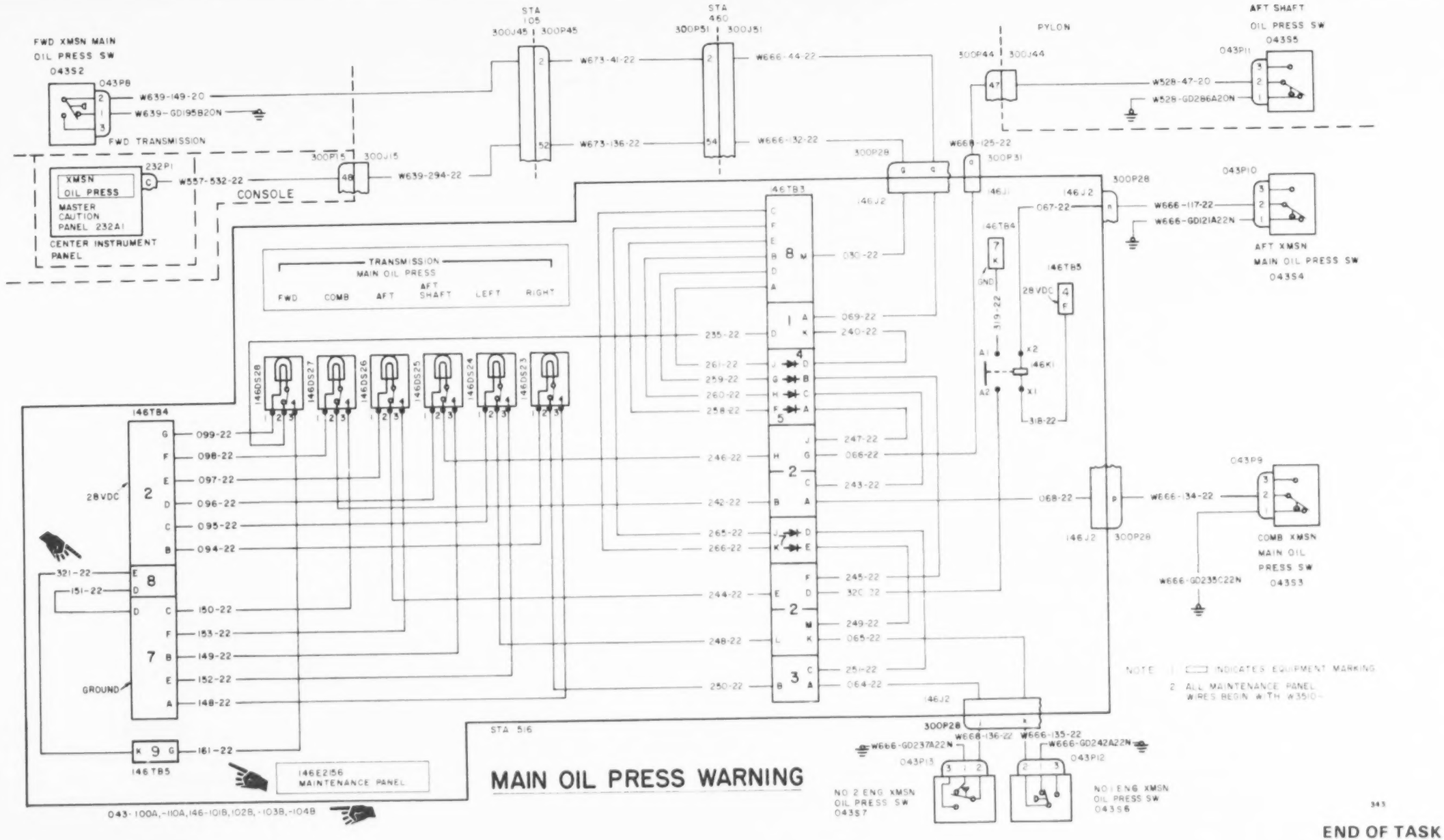
AUX OIL PRESS WARNING

90X54

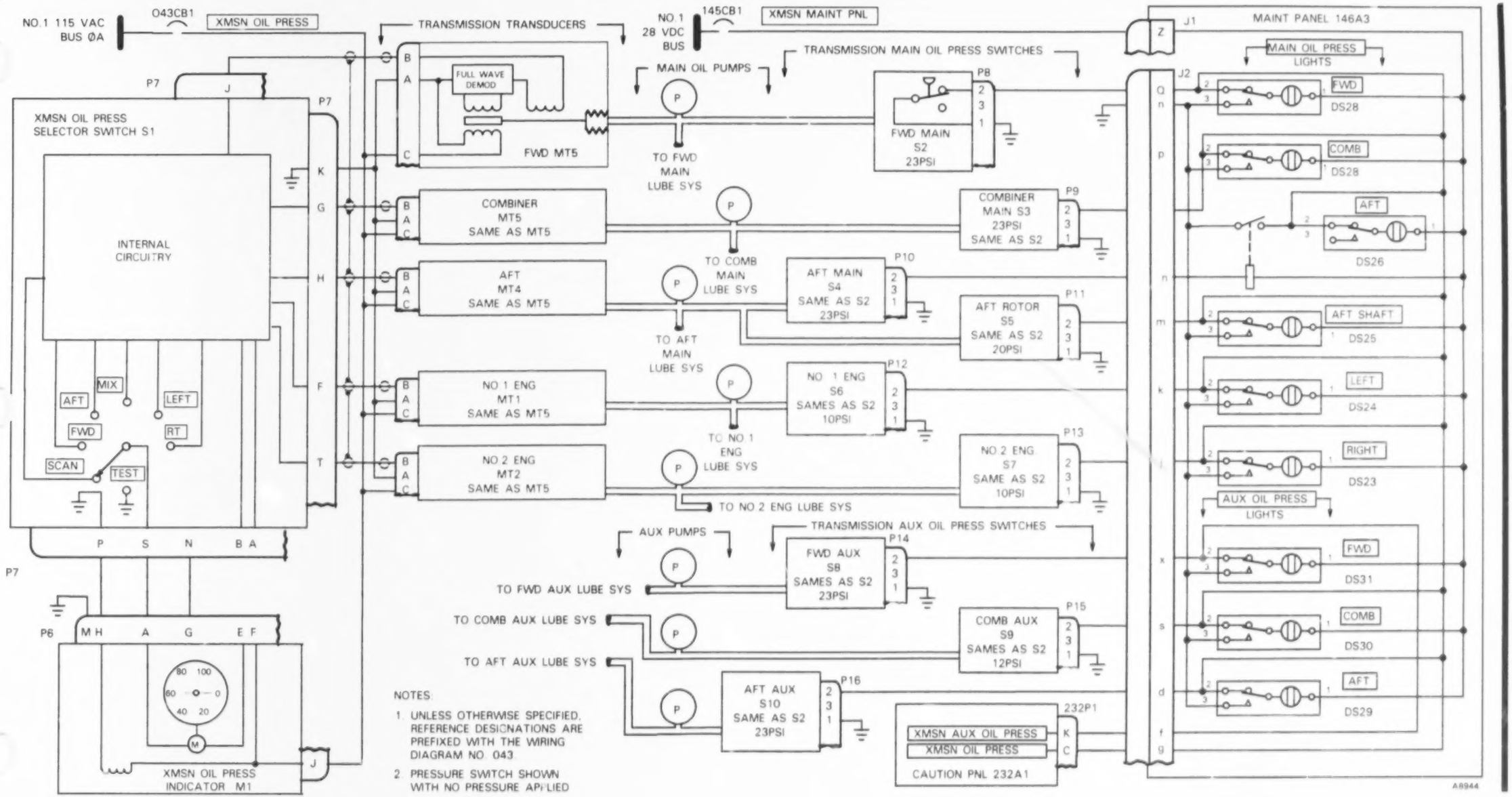
043 100, 110, 146 101, 103, 104 A

GO TO NEXT PAGE

8-9.1 TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM WIRING DIAGRAM (Continued)



END OF TASK


NO.1 115 VAC BUS ØA
043CB1
XMSN OIL PRESS
TRANSMISSION TRANSDUCERS
NO.1 28 VDC BUS
145CB1
XMSN MAINT PNL
MAIN OIL PUMPS
TRANSMISSION MAIN OIL PRESS SWITCHES
MAINT PANEL 146A3
MAIN OIL PRESS LIGHTS
XMSN OIL PRESS SELECTOR SWITCH S1
INTERNAL CIRCUITRY
AFT
MIX
LEFT
FWD
RT
SCAN
TEST
P S N B A
FULL WAVE DEMOD
FWD MT5
TO FWD MAIN LUBE SYS
FWD MAIN S2 23PSI
COMBINER MT5 SAME AS MT5
TO COMB MAIN LUBE SYS
COMBINER MAIN S3 23PSI SAME AS S2
AFT MT4 SAME AS MT5
TO AFT MAIN LUBE SYS
AFT MAIN S4 SAME AS S2 23PSI
AFT ROTOR S5 SAME AS S2 20PSI
NO.1 ENG MT1 SAME AS MT5
TO NO.1 ENG LUBE SYS
NO.1 ENG S6 SAMES AS S2 10PSI
NO.2 ENG MT2 SAME AS MT5
TO NO.2 ENG LUBE SYS
NO.2 ENG S7 SAME AS S2 10PSI
AUX PUMPS
TRANSMISSION AUX OIL PRESS SWITCHES
TO FWD AUX LUBE SYS
FWD AUX S8 SAMES AS S2 23PSI
TO COMB AUX LUBE SYS
COMB AUX S9 SAMES AS S2 12PSI
TO AFT AUX LUBE SYS
AFT AUX S10 SAME AS S2 23PSI
XMSN AUX OIL PRESS
XMSN OIL PRESS
CAUTION PNL 232A1
AUX OIL PRESS LIGHTS
FWD DS28
COMB DS28
AFT DS26
AFT SHAFT DS25
LEFT DS24
RIGHT DS23
FWD DS31
COMB DS30
AFT DS29
XMSN OIL PRESS INDICATOR M1
M H A G E F
NOTES:
1. UNLESS OTHERWISE SPECIFIED, REFERENCE DESIGNATIONS ARE PREFIXED WITH THE WIRING DIAGRAM NO. 043.
2. PRESSURE SWITCH SHOWN WITH NO PRESSURE APPLIED
A8944

8-9.2 TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

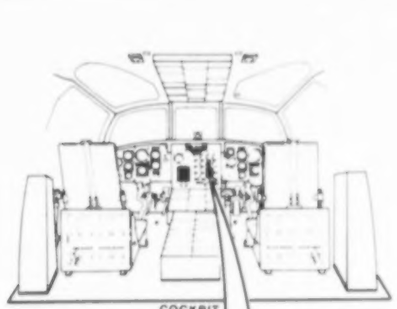
Tools:
Aircraft Mechanic's Tool Kit,
NSN 5180-00-323-4692

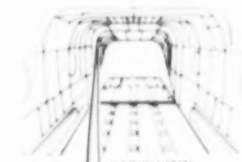
Materials:
None

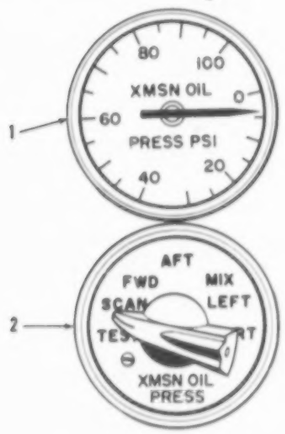
Personnel Required:
67U10 Medium Helicopter Repairer

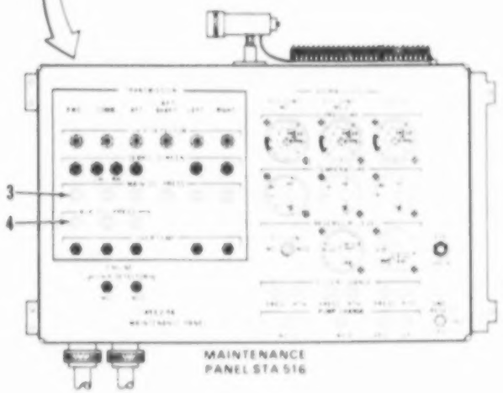
References:
TM 55-1520-240-23

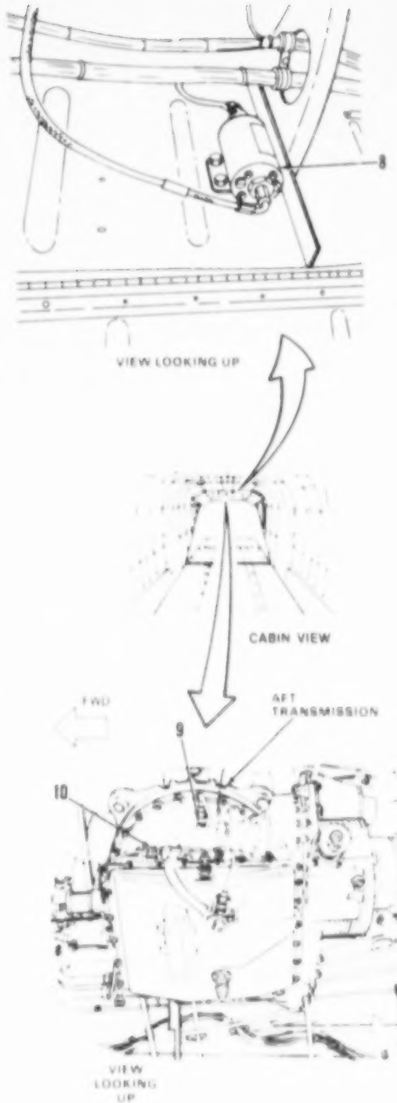
Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Left and Right Forward Work Platforms Open
Aft Transmission Baffles Open
Pylon Hinged Fairing Open
Pylon Cover Fairing Open
Cargo Ramp Open and Level
(Task 7-3.3)

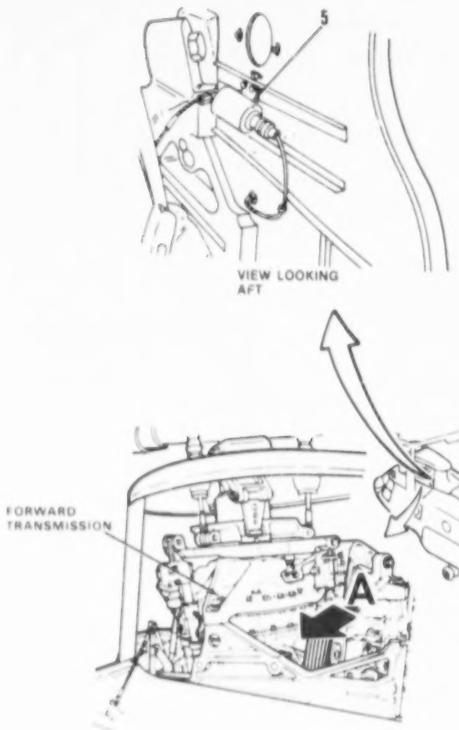


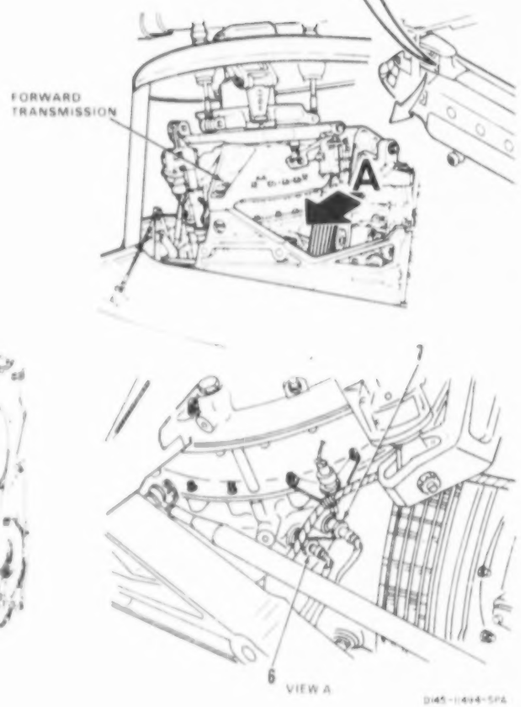












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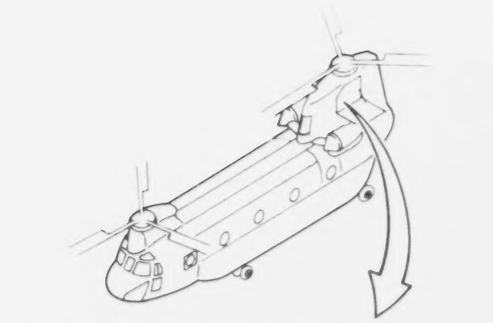
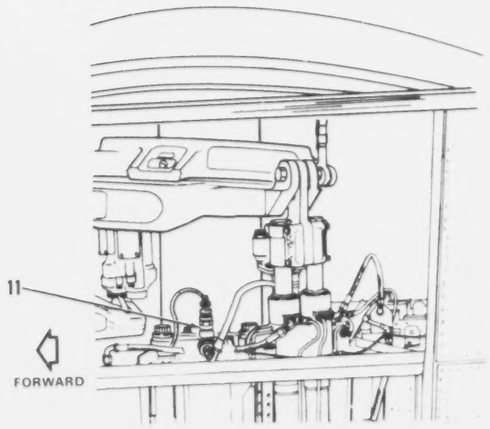
8-9.2 TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM VISUAL CHECK (Continued)

TASK	RESULT
1. **Check XMSN OIL Press indicator (1).**	If indicator (1) is loose or damaged, tighten or replace it as required.
2. **Check XMSN OIL Press** switch (2).	If switch (2) is loose or damaged, tighten or replace it as required.
3. **Check six MAIN OIL PRESS Lights (3)** and **three AUX PRESS Lights (4).**	If any light (3) or (4) is damaged, replace it.
CHECK FORWARD TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM INSTALLATION	
4. Check pressure transducer (5).	If transducer (5) is damaged, replace it. If wiring or electrical connector to transducer is damaged, repair or replace it as required. If hose to transducer is loose or damaged, tighten or replace it as required.
5. Check main oil pressure switch (6).	If switch (6) is damaged, replace it. If wiring or electrical connector to switch is damaged, repair or replace it as required.
6. Check auxiliary oil pressure switch (7).	If switch (7) is damaged, replace it. If wiring or electrical connector to switch is damaged, repair or replace it as required.
CHECK AFT TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM INSTALLATION	
7. **Check pressure transducer (8).**	If transducer (8) is damaged, replace it. If wiring or electrical connector to transducer is damaged, repair or replace it as required. If hose to transducer is loose or damaged, tighten or replace it as required.
8. Check main oil pressure switch (9).	If switch (9) is damaged, replace it. If wiring or electrical connector to switch is damaged, repair or replace it as required.
9. Check auxiliary oil pressure switch (10).	If switch (10) is damaged, replace it. If wiring or electrical connector to switch is damaged, repair or replace it as required.

GO TO NEXT PAGE

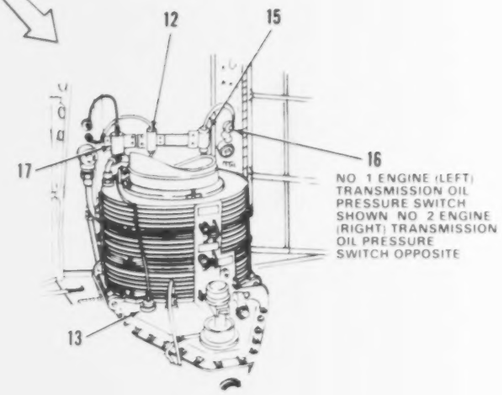
8-9.2 TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM VISUAL CHECK (Continued)



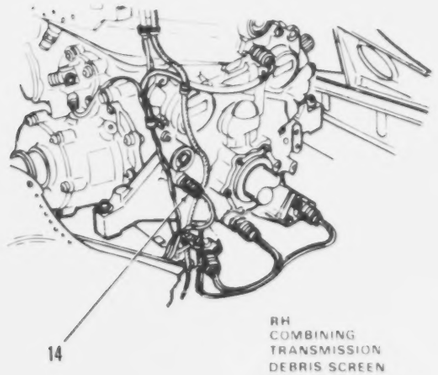


90 X 54

COMBINING TRANSMISSION



NO. 1 ENGINE (LEFT) TRANSMISSION OIL PRESSURE SWITCH SHOWN. NO. 2 ENGINE (RIGHT) TRANSMISSION OIL PRESSURE SWITCH OPPOSITE



RH COMBINING TRANSMISSION DEBRIS SCREEN

DIAT J1495-SPA

GO TO NEXT PAGE

8-9.2 TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM VISUAL CHECK (Continued)

TASK	RESULT
CHECK AFT ROTOR SHAFT WARNING SYSTEM INSTALLATION	
10. **Check oil pressure switch (11).**	If switch (11) is damaged, replace it. If wiring or electrical connector to switch is damaged, repair or replace it as required.
CHECK COMBINING TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM INSTALLATION	
11. **Check pressure transducer (12).**	If transducer (12) is damaged, replace it. If wiring or electrical connector to transducer is damaged, repair or replace it as required. If hose to transducer is loose or damaged, repair or replace it as required.
12. **Check main oil pressure switch (13)**	If switch (13) is damaged, replace it. If wiring or electrical connector to switch is damaged, repair or replace it as required.
13. **Check auxiliary oil pressure switch (14).**	If switch (14) is damaged, replace it. If wiring or electrical connector to switch is damaged, repair or replace it as required.
CHECK NO. 1 (LEFT) ENGINE TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM INSTALLATION	
14. Check pressure transducer (15).	If transducer (15) is damaged, replace it. If wiring or electrical connector to transducer is damaged, repair or replace it as required. If hose to transducer is loose or damaged, repair or replace it as required.
15. Check oil pressure switch (16).	If switch (16) is damaged, replace it. If wiring or electrical connector to switch is damaged, repair or replace it as required.
CHECK NO. 2 (RIGHT) ENGINE TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM INSTALLATION	
16. Check pressure transducer (17).	If transducer (17) is damaged, replace it. If wiring or electrical connector to transducer is damaged, repair or replace it as required. If hose to transducer is loose or damaged, repair or replace it as required.
17. Check oil pressure switch (16).	If switch (16) is damaged, replace it. If wiring or electrical connector to switch is damaged, repair or replace it as required.

FOLLOW-ON MAINTENANCE

None

END OF TASK

8-9.3 TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
None

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician
100CO Army Rotary Wing Aviator (2)

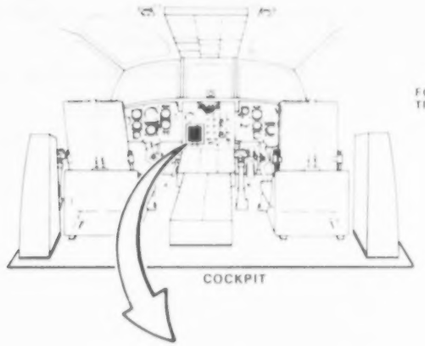
References:
TM 55-1520-240-23

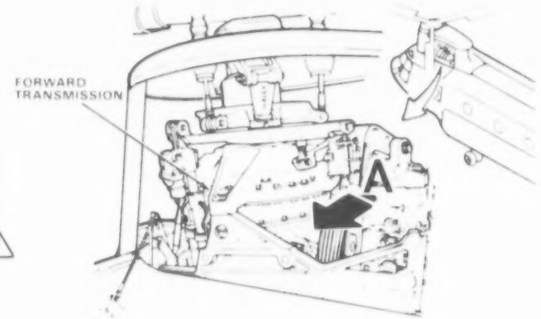
Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off
Visual Check of Transmission Oil Pressure Indicating and Warning System Performed (Task 8-9.2)

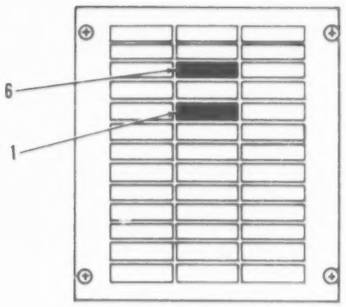
TASK	RESULT
CHECK TRANSMISSION AUXILIARY OIL PRESSURE WARNING SYSTEM	
1. Check that XMSN AUX OIL PRESS capsule (1) is lit.	If capsule (1) is not lit, go to task 8-9.4.
2. Check that three TRANSMISSION AUX OIL PRESS lights (2) are lit.	If any light (2) is not on, go to task 8-9.5.
3. Disconnect plug from forward transmission auxiliary oil pressure switch (3).	FWD TRANSMISSION AUX OIL PRESS Light (2) shall go out. If it is still on, go to task 8-9.6.
4. Disconnect plug from aft transmission auxiliary oil pressure switch (4).	AFT TRANSMISSION AUX OIL PRESS light (2) shall go out. If it is still on, go to task 8-9.6.
5. Disconnect plug from combining transmission auxiliary oil pressure switch (5).	COMB TRANSMISSION AUX OIL PRESS Light (2) shall go out. If it is still on, go to task 8-9.6. XMSN AUX OIL PRESS capsule (1) shall go out. If it is still on, go to task 8-9.7.
6. Short pin 2 in forward transmission auxiliary oil pressure switch (3) plug to ground with a wire.	XMSN AUX OIL PRESS capsule (1) shall come on. FWD TRANSMISSION AUX OIL PRESS light (2) shall come on. If capsule (1) does not come on, go to task 8-9.8.
7. Remove wire.	Capsule (1) and Light (2) shall go out.
8. Short pin 2 in aft transmission auxiliary oil pressure switch (4) plug to ground with a wire.	XMSN AUX OIL PRESS capsule (1) shall come on. AFT TRANSMISSION AUX OIL PRESS light (2) shall come on. If capsule (1) does not come on, go to task 8-9.8.
9 Remove wire	Capsule (1) and light (2) shall go out
10. Short pin 2 in combining transmission auxiliary oil pressure switch (5) plug to ground with a wire.	XMSN AUX OIL PRESS capsule (1) shall come on. COMB TRANSMISSION AUX OIL PRESS light (2) shall come on. If capsule (1) does not come on, go to task 8-9.8.
11. Remove wire.	Capsule (1) and Light (2) shall go out.
12. Press and release each TRANSMISSION AUX OIL PRESS light (2)	Each light (2) shall come on when pressed. If it does not, go to task 8-9.9.
13. Connect plugs to combining transmission, aft transmission, and forward transmission auxiliary oil pressure transmission auxiliary oil pressure switches (5, 4, and 3).	XMSN AUX OIL PRESS capsule (1) shall come on. FWD, COMB, and AFT TRANSMISSION AUX OIL PRESS Lights (2) shall come on.
CHECK TRANSMISSION MAIN OIL PRESSURE WARNING SYSTEM	
14. Check that XMSN OIL PRESS capsule (6) is lit.	If capsule (6) is not lit, go to task 8-9.10.
15. Check that five TRANSMISSION MAIN OIL PRESS Lights (7) are lit.	If any light is not on, go to task 8-9.11.

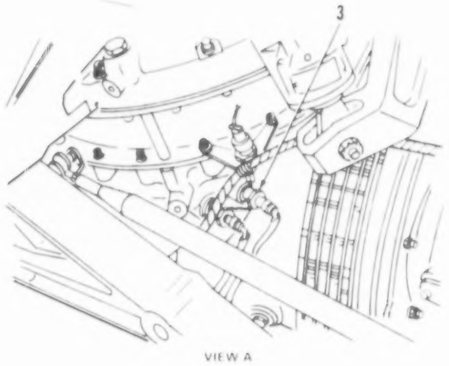
GO TO NEXT PAGE

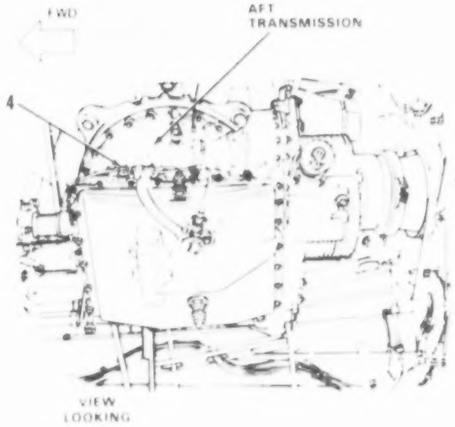
8-9.3 TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM OPERATIONAL CHECK (Continued)

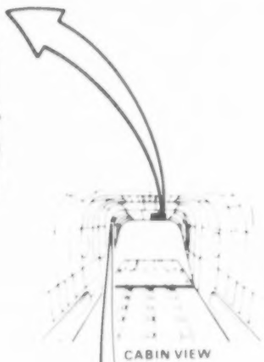


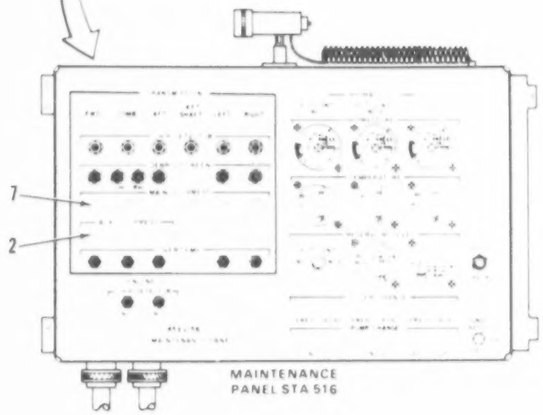


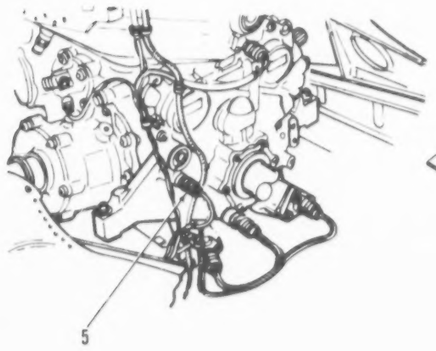












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8-9.3 TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM OPERATIONAL CHECK (Continued)

TASK	RESULT
16. Disconnect plug from forward transmission main oil pressure switch (8).	FWD TRANSMISSION MAIN OIL PRESS Light (7) shall go out. If it is still on, go to task 8-9.12.
17. Disconnect plug from aft transmission main oil pressure switch (9).	AFT TRANSMISSION MAIN OIL PRESS Light (7) shall go out. If it is still on, go to task 8-9.12.
18. Disconnect plug from combining transmission main oil pressure switch (10).	COMB TRANSMISSION MAIN OIL PRESS Light (7) shall go out. If it is still on, go to task 8-9.12.
19. Disconnect plug from No. 1 (left) engine transmission oil pressure switch (11).	LEFT TRANSMISSION MAIN OIL PRESS Light (7) shall go out. If it is still on, go to task 8-9.12.
20. Disconnect plug from No. 2 (right) engine transmission oil pressure switch (11).	RIGHT TRANSMISSION MAIN OIL PRESS Light (7) shall go out. If it is still on, go to task 8-9.12.
21. Disconnect plug from aft shaft oil pressure switch (12).	AFT SHAFT MAIN OIL PRESS Light (7) shall go out. If it is still on, go to task 8-9.12. XMSN oil press capsule (6) shall go out. If it is still on, go to task 8-9.13.
22. Short pin 2 in aft shaft oil pressure switch (12) plug to ground with a wire.	XMSN OIL PRESS capsule (6) shall come on. AFT SHAFT MAIN OIL PRESS Light (7) shall come on. If capsule (6) does not come on, go to task 8-9.14.
23. Remove wire.	Capsule (6) and Light (7) shall go out.
24. Short pin 2 in No. 2 engine (right) transmission oil pressure switch (11) plug to ground with a wire.	XMSN OIL PRESS capsule (6) shall come on. RIGHT TRANSMISSION MAIN OIL PRESS Light (7) shall come on. If capsule (6) does not come on, go to task 8-9.14.
25. Remove wire.	Capsule (6) and Light (7) shall go out.
26. Short pin 2 in No. 1 engine (left) transmission oil pressure switch (11) plug to ground with a wire.	XMSN OIL PRESS capsule (6) shall come on. LEFT TRANSMISSION MAIN OIL PRESS Light (7) shall come on. If capsule (6) does not come on, go to task 8-9.14.
27. Remove wire.	Capsule (6) and Light (7) shall go out.
28. Short pin 2 in combining transmission main oil pressure switch (10) plug to ground with a wire.	XMSN OIL PRESS capsule (6) shall come on. COMB TRANSMISSION MAIN OIL PRESS Light (7) shall come on. If capsule (6) does not come on, go to task 8-9.14.
29. Remove wire.	Capsule (6) and Light (7) shall go out.
30. Short pin 2 in aft transmission main oil pressure switch (9) plug to ground with a wire.	XMSN OIL PRESS capsule (6) shall come on. AFT TRANSMISSION MAIN OIL PRESS Light (7) shall come on. If capsule (6) does not come on, go to task task 8-9.14.
31. Remove wire.	Capsule (6) and Light (7) shall go out.
32. Short pin 2 in forward transmission main oil pressure switch (8) plug to ground with a wire.	XMSN OIL PRESS capsule (6) shall come on. FWD TRANSMISSION MAIN OIL PRESS Light (7) shall come on. If capsule (6) does not come on, go to task 8-9.14.
33. Remove wire.	Capsule (6) and Light (7) shall go out.
34. Press and release each TRANSMISSION MAIN OIL PRESS Light (7).	Each Light (7) shall come on when pressed. If it does not, go to task 8-9.15.
35. Connect plugs to forward, aft, combining, No. 1 (left) and No. 2 (right) engine transmission pressure switches (8, 9, 10, and 11) and aft shaft pressure switch (12).	XMSN OIL PRESS capsule (6) shall come on. FWD, COMB, AFT, LEFT, RIGHT, and AFT SHAFT TRANSMISSION MAIN OIL PRESS Lights (7) shall come on.

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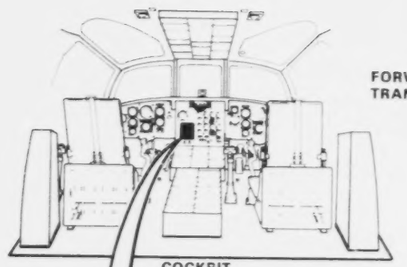
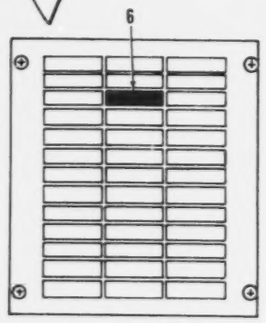
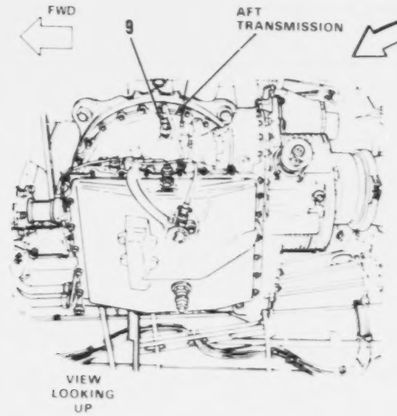
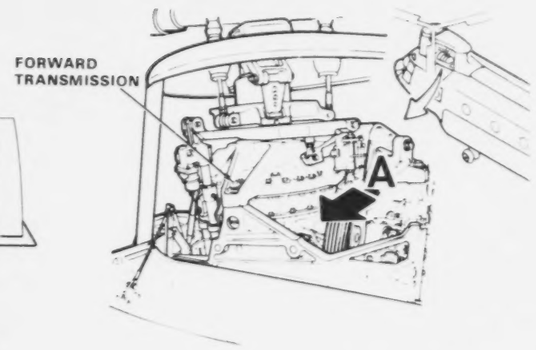
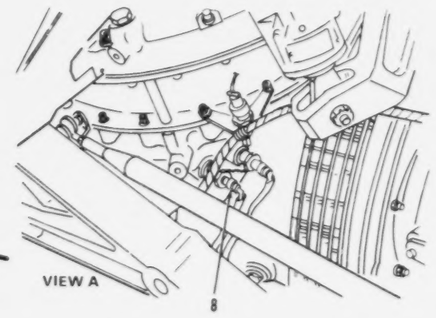
8-9.3 TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM OPERATIONAL CHECK (Continued)

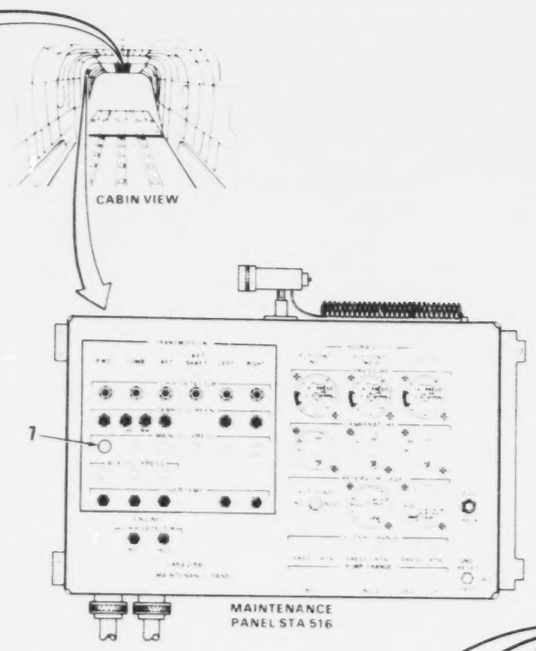


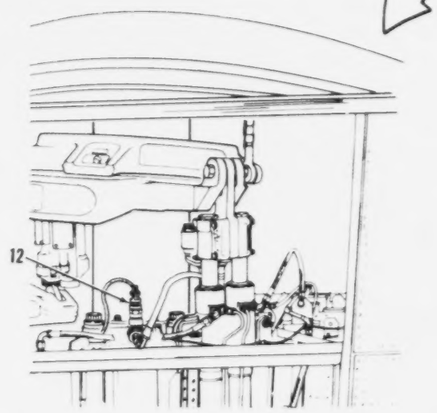












NO. 1 ENGINE (LEFT) TRANSMISSION OIL PRESSURE SWITCH SHOWN. NO. 2 ENGINE (RIGHT) TRANSMISSION OIL PRESSURE SWITCH OPPOSITE.

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8-9.3 TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM OPERATIONAL CHECK (Continued)

TASK	RESULT
CHECK TRANSMISSION OIL PRESSURE INDICATING SYSTEM	
36. Close left and right forward work platforms.	
37. Close pylon lower fairing and hinted fairing.	
38. Close aft transmission baffles.	
39. **Check** that **XMSN OIL PRESS circuit breaker (13)** is **closed.**	If circuit breaker (1) is open, close it. If it opens again, go to task 8-9.16.
40. **Check** that **XMSN OIL PRESS switch (14) is set** to **SCAN.**	If switch (14) is not at SCAN, then set it to SCAN.
41. Have pilot start engines and stabilize rpm at 100 percent **Check XMSN OIL PRESS indicator (15). Record indication.**	Indicator (15) should indicate in normal pressure range, 20 to 90 psi. If it does not, turn knob MSN OIL PRESS switch (14). To FWD, AFT, MIX, LEFT then RT positions. Note indications, and go to task 8-9.17.
42. **Set** and **hold knob** on **XMSN OIL PRESS switch (14)** to **TEST.**	Pointer on indicator (15) shall move to 0. Switch (14) TEST position shall light. If pointer does not move to 0 or TEST position does not Light, replace switch (14).
43. **Release knob** on **XMSN OIL PRESS switch (14).**	Knob on switch (14) shall return to SCAN position. SCAN position shall light. Pointer on indicator (15) shall move to operating pressure indication. If knob does not return to SCAN or SCAN position does not light, replace switch.
44. **Turn knob on XMSN OIL PRESS switch (14)** to **FWD, AFT, MIX, LEFT,** then **RT position.** Record indication on **XMSN OIL PRESS indicator (15)** for each switch position.	Each position on switch (14) shall Light when selected. Each indicator (15) switch position indication shall be in normal pressure range, 20 to 90 psi. If any switch position does not light, replace switch. If any indicator indication is not in normal range, go to task 8-9.18.
45. Compare indications recorded in step 41 and step 44.	If Lowest indication recorded in step 44 is not within 3 percent of step 41 indication replace switch (14).
46. **Turn knob** on **XMSN OIL PRESS switch (14)** to **SCAN.**	Switch position of Lowest indication recorded in step 44 shall Light. If it does not, replace switch (14).

TASK	RESULT
FOLLOW-ON MAINTENANCE: Have pilot shutdown engines. TM 55-1520-240-23 Electrical Power Off Battery Disconnected Hydraulic Power Off	

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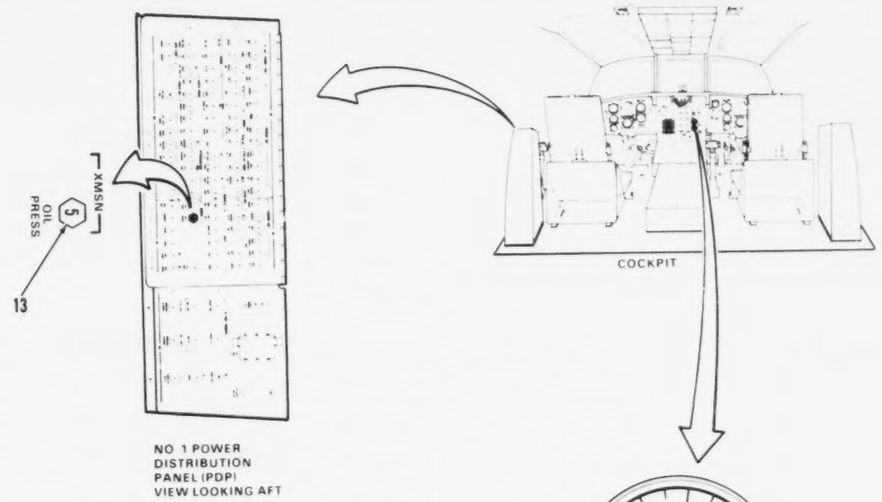
8-9.3 TRANSMISSION OIL PRESSURE INDICATING AND WARNING SYSTEM OPERATIONAL CHECK (Continued)



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END OF TASK

8-9.4 XMSN AUX OIL PRESS CAPSULE NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

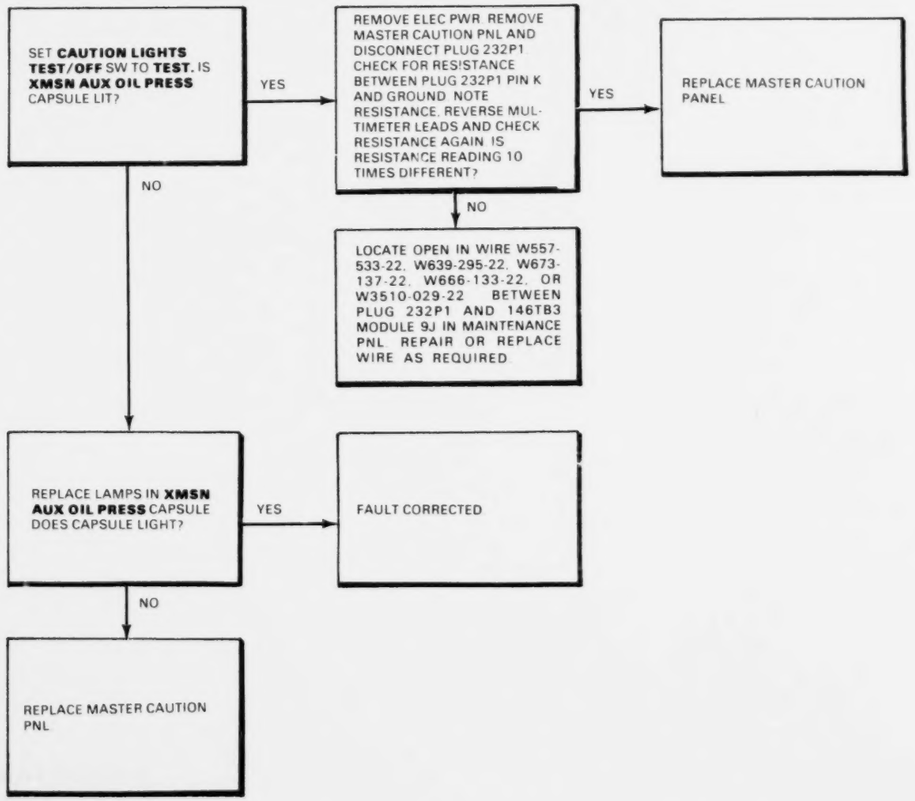
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

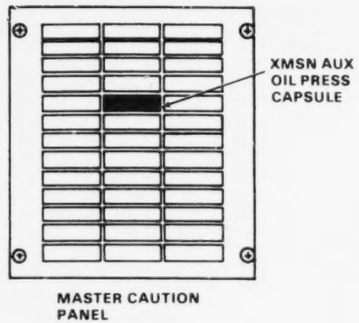
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

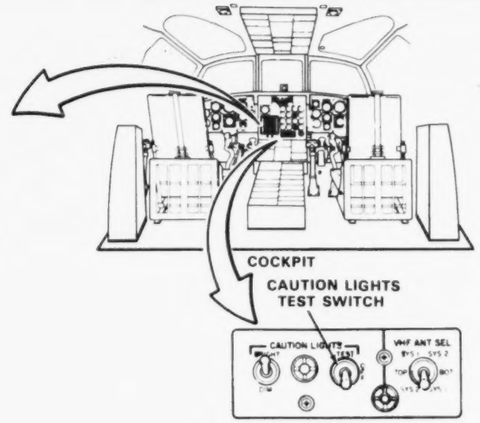
References:
TM 55-1520-240-23

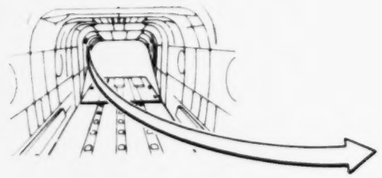
Equipment Condition:
TM 55-1520-240-23:
Battery Corrected
Electrical Power On
Hydraulic Power Off

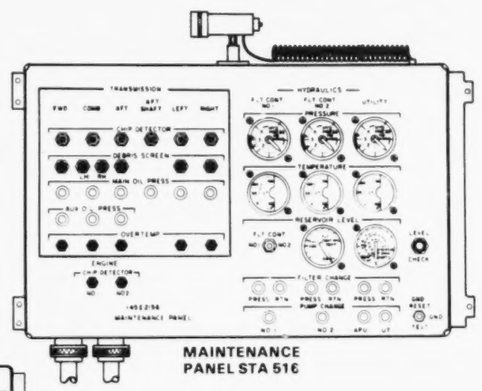

SET CAUTION LIGHTS TEST/OFF SW TO TEST. IS XMSN AUX OIL PRESS CAPSULE LIT?
YES
REMOVE ELEC PWR. REMOVE MASTER CAUTION PNL AND DISCONNECT PLUG 232P1 CHECK FOR RESISTANCE BETWEEN PLUG 232P1 PIN K AND GROUND. NOTE RESISTANCE. REVERSE MULTIMETER LEADS AND CHECK RESISTANCE AGAIN. IS RESISTANCE READING 10 TIMES DIFFERENT?
YES
REPLACE MASTER CAUTION PANEL
NO
LOCATE OPEN IN WIRE W557-533-22, W639-295-22, W673-137-22, W666-133-22, OR W3510-029-22 BETWEEN PLUG 232P1 AND 146TB3 MODULE 9J IN MAINTENANCE PNL. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE LAMPS IN XMSN AUX OIL PRESS CAPSULE DOES CAPSULE LIGHT?
YES
FAULT CORRECTED
NO
REPLACE MASTER CAUTION PNL



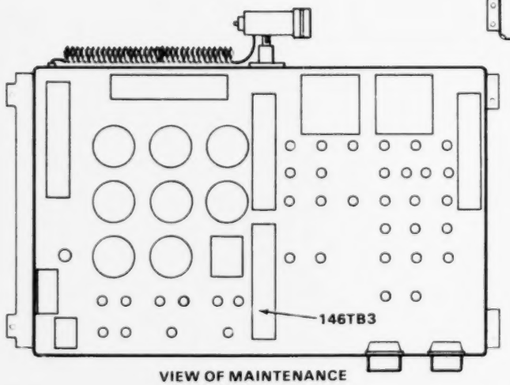
MASTER CAUTION PANEL







MAINTENANCE PANEL STA 516



VIEW OF MAINTENANCE PANEL BACK

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END OF TASK

8-9.5 FWD, COMB, OR AFT TRANSMISSION AUX OIL PRESS LIGHT IS OUT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

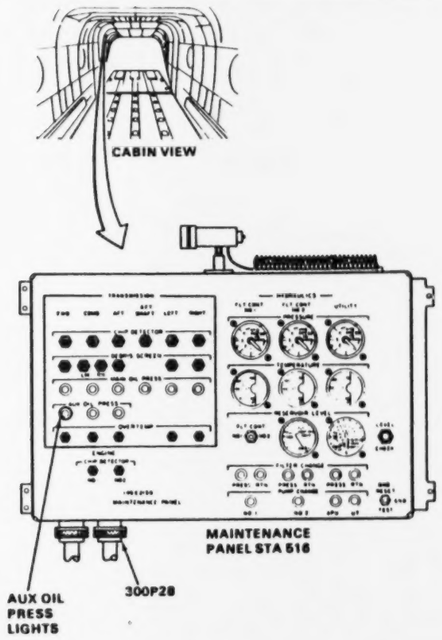
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

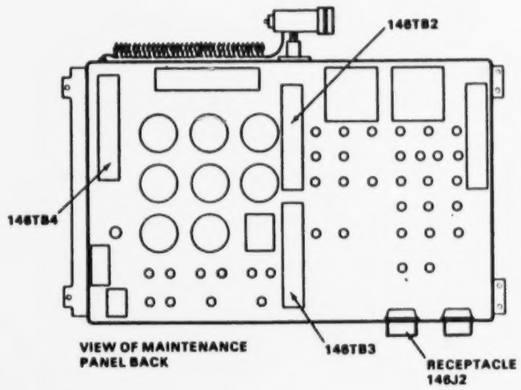
Materials:
None

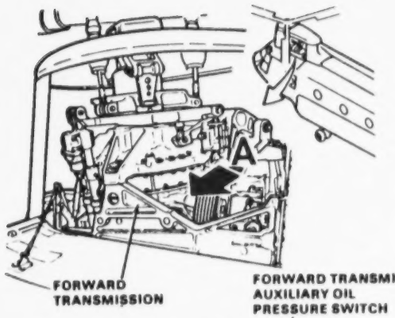
Personnel Required:
68F20 Aircraft Electrician

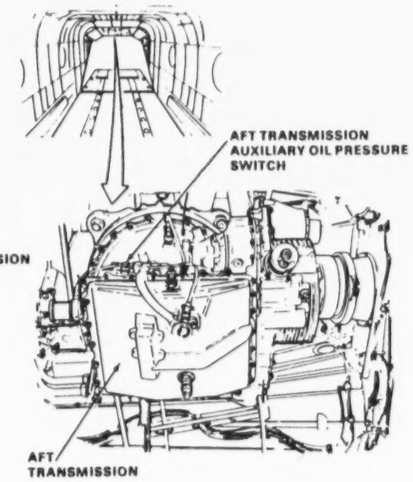
References:
TM 55-1520-240-23

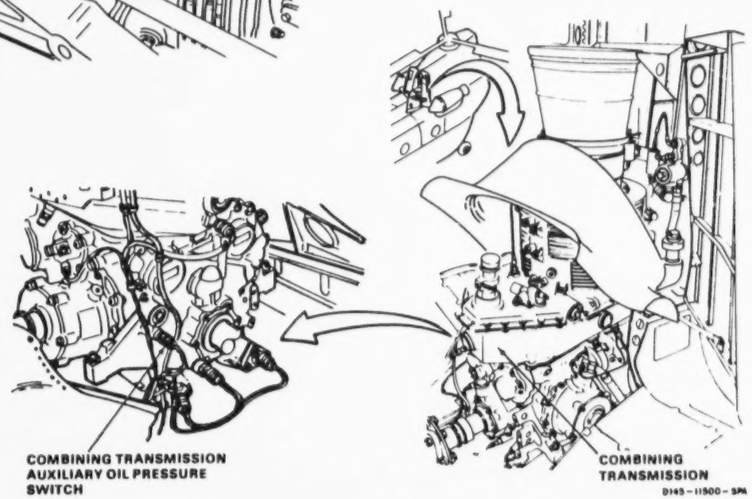
Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off











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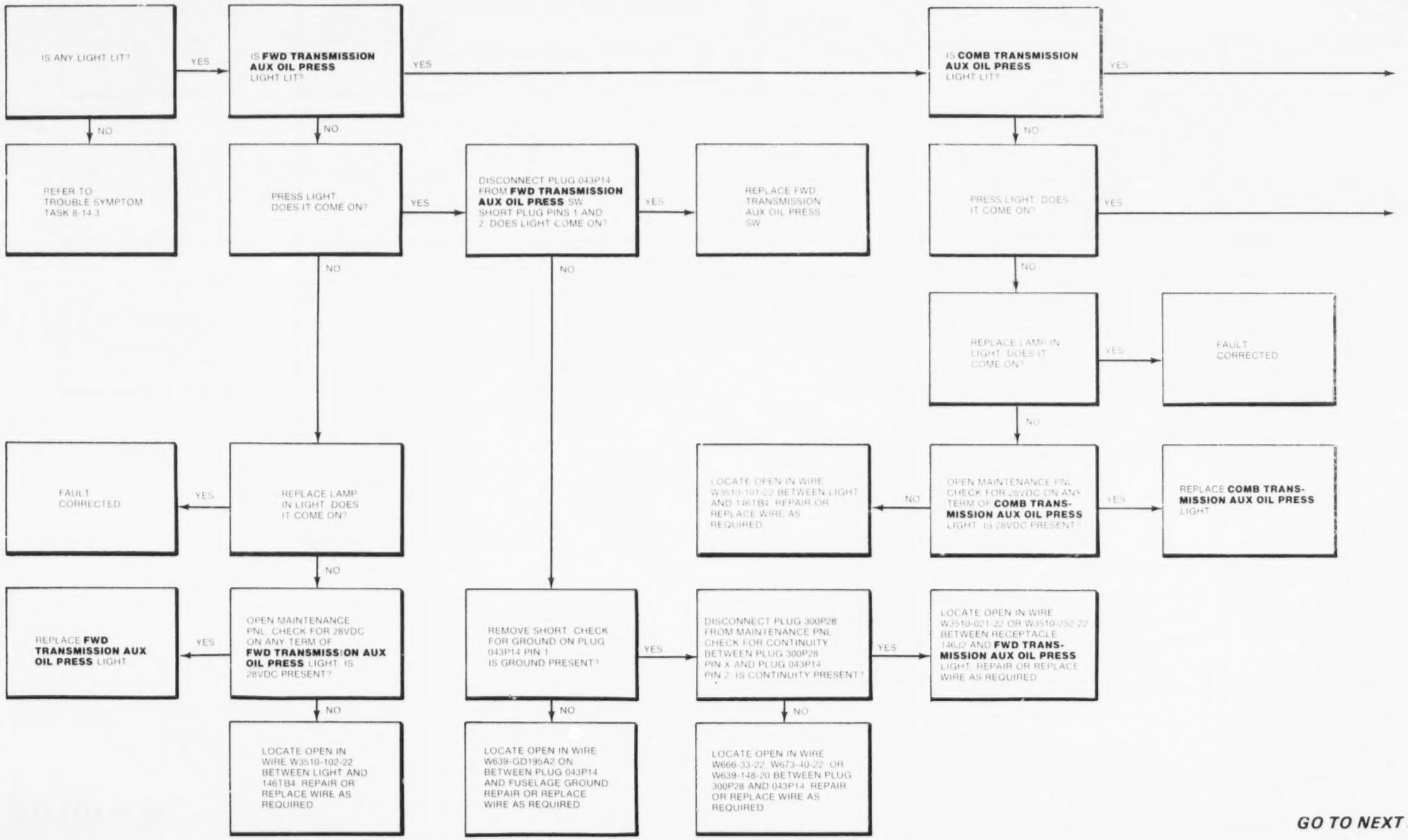
8-9.5 FWD, COMB, OR AFT TRANSMISSION AUX OIL PRESS LIGHT IS OUT (Continued)


IS ANY LIGHT LIT?
YES
IS **FWD TRANSMISSION AUX OIL PRESS** LIGHT LIT?
YES
IS **COMB TRANSMISSION AUX OIL PRESS** LIGHT LIT?
YES
NO
NO
NO
REFER TO TROUBLE SYMPTOM TASK 8-14.3
PRESS LIGHT. DOES IT COME ON?
YES
DISCONNECT PLUG 043P14 FROM **FWD TRANSMISSION AUX OIL PRESS** SW. SHORT PLUG PINS 1 AND 2. DOES LIGHT COME ON?
YES
REPLACE FWD TRANSMISSION AUX OIL PRESS SW
PRESS LIGHT. DOES IT COME ON?
YES
NO
NO
NO
REPLACE LAMP IN LIGHT. DOES IT COME ON?
YES
FAULT CORRECTED
NO
FAULT CORRECTED
YES
REPLACE LAMP IN LIGHT. DOES IT COME ON?
YES
NO
LOCATE OPEN IN WIRE W3510-101-22 BETWEEN LIGHT AND 146TB4. REPAIR OR REPLACE WIRE AS REQUIRED
NO
OPEN MAINTENANCE PNL. CHECK FOR 28VDC ON ANY TERM OF **COMB TRANSMISSION AUX OIL PRESS** LIGHT. IS 28VDC PRESENT?
YES
REPLACE **COMB TRANSMISSION AUX OIL PRESS** LIGHT
REPLACE **FWD TRANSMISSION AUX OIL PRESS** LIGHT
YES
OPEN MAINTENANCE PNL. CHECK FOR 28VDC ON ANY TERM OF **FWD TRANSMISSION AUX OIL PRESS** LIGHT. IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W3510-102-22 BETWEEN LIGHT AND 146TB4. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE SHORT. CHECK FOR GROUND ON PLUG 043P14 PIN 1. IS GROUND PRESENT?
YES
NO
LOCATE OPEN IN WIRE W639-GD195A2 ON BETWEEN PLUG 043P14 AND FUSELAGE GROUND REPAIR OR REPLACE WIRE AS REQUIRED
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL. CHECK FOR CONTINUITY BETWEEN PLUG 300P28 PIN X AND PLUG 043P14 PIN 2. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W666-33-22, W673-40-22, OR W639-148-20 BETWEEN PLUG 300P28 AND 043P14. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE OPEN IN WIRE W3510-021-22 OR W3510-252-22 BETWEEN RECEPTACLE 146J2 AND **FWD TRANSMISSION AUX OIL PRESS** LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED

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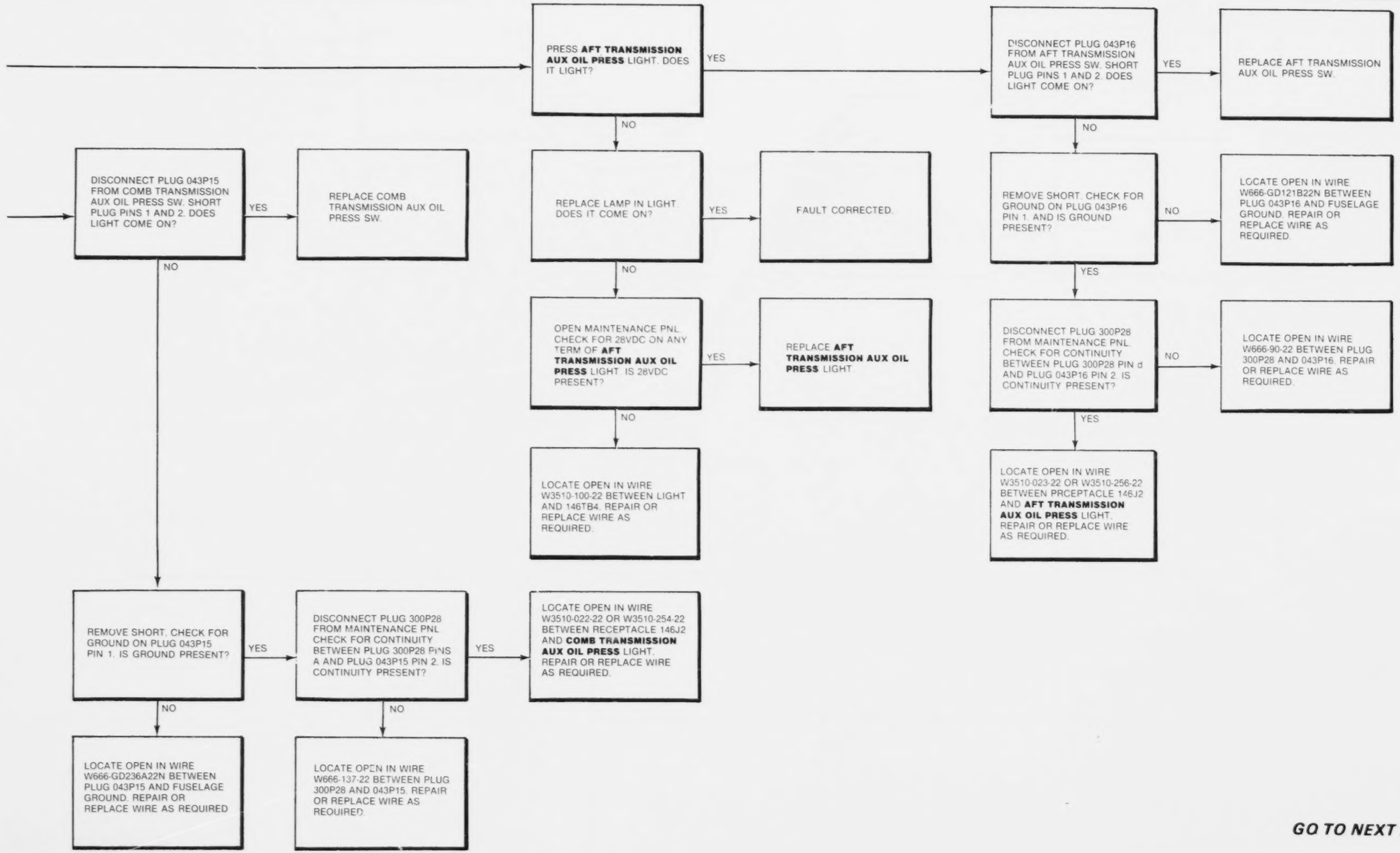
8-9.5 FWD, COMB, OR AFT TRANSMISSION AUX OIL PRESS LIGHT IS OUT (Continued)


PRESS AFT TRANSMISSION AUX OIL PRESS LIGHT. DOES IT LIGHT?
YES
NO
DISCONNECT PLUG 043P16 FROM AFT TRANSMISSION AUX OIL PRESS SW. SHORT PLUG PINS 1 AND 2. DOES LIGHT COME ON?
YES
REPLACE AFT TRANSMISSION AUX OIL PRESS SW.
NO
DISCONNECT PLUG 043P15 FROM COMB TRANSMISSION AUX OIL PRESS SW. SHORT PLUG PINS 1 AND 2. DOES LIGHT COME ON?
YES
REPLACE COMB TRANSMISSION AUX OIL PRESS SW.
NO
REPLACE LAMP IN LIGHT. DOES IT COME ON?
YES
FAULT CORRECTED.
NO
REMOVE SHORT. CHECK FOR GROUND ON PLUG 043P16 PIN 1. AND IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W666-GD121B22N BETWEEN PLUG 043P16 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
OPEN MAINTENANCE PNL. CHECK FOR 28VDC ON ANY TERM OF AFT TRANSMISSION AUX OIL PRESS LIGHT. IS 28VDC PRESENT?
YES
REPLACE AFT TRANSMISSION AUX OIL PRESS LIGHT.
NO
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL. CHECK FOR CONTINUITY BETWEEN PLUG 300P28 PIN d AND PLUG 043P16 PIN 2. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W666-90-22 BETWEEN PLUG 300P28 AND 043P16. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE OPEN IN WIRE W3510-100-22 BETWEEN LIGHT AND 146TB4. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE OPEN IN WIRE W3510-023-22 OR W3510-256-22 BETWEEN PRCEPTACLE 146J2 AND AFT TRANSMISSION AUX OIL PRESS LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE SHORT. CHECK FOR GROUND ON PLUG 043P15 PIN 1. IS GROUND PRESENT?
YES
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL. CHECK FOR CONTINUITY BETWEEN PLUG 300P28 PINS A AND PLUG 043P15 PIN 2. IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRE W3510-022-22 OR W3510-254-22 BETWEEN RECEPTACLE 146J2 AND COMB TRANSMISSION AUX OIL PRESS LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W666-GD236A22N BETWEEN PLUG 043P15 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W666-137-22 BETWEEN PLUG 300P28 AND 043P15. REPAIR OR REPLACE WIRE AS REQUIRED.

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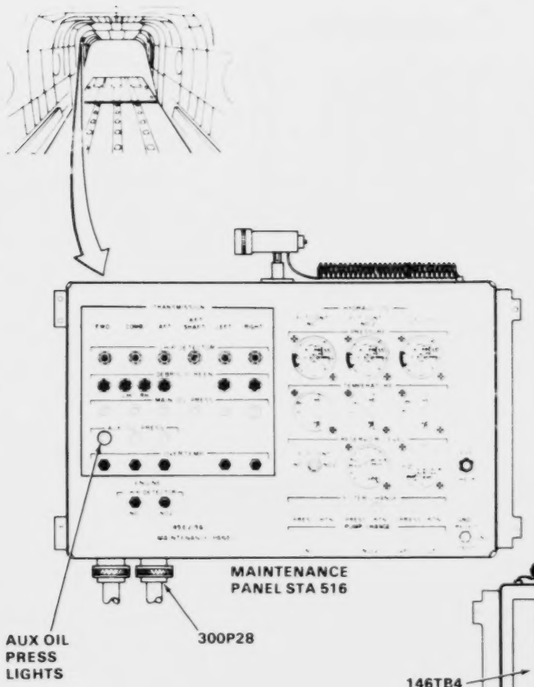
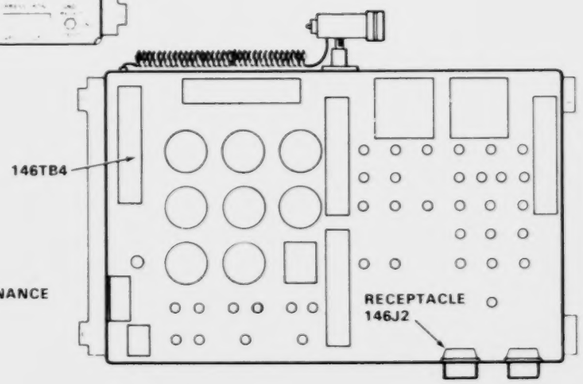
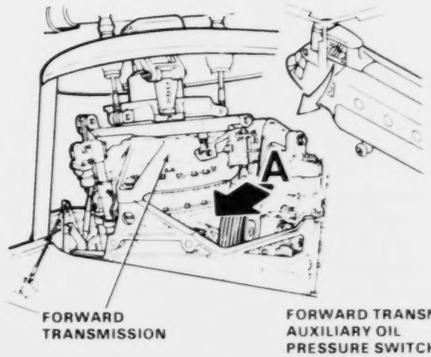
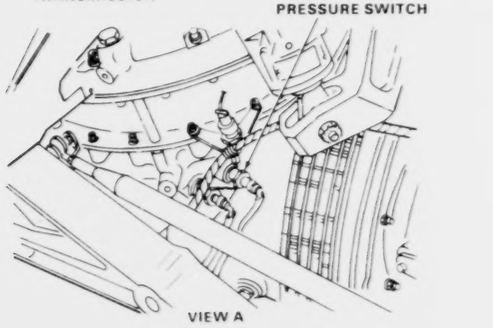
8-9.5 FWD, COMB, OR AFT TRANSMISSION AUX OIL PRESS LIGHT IS OUT (Continued)



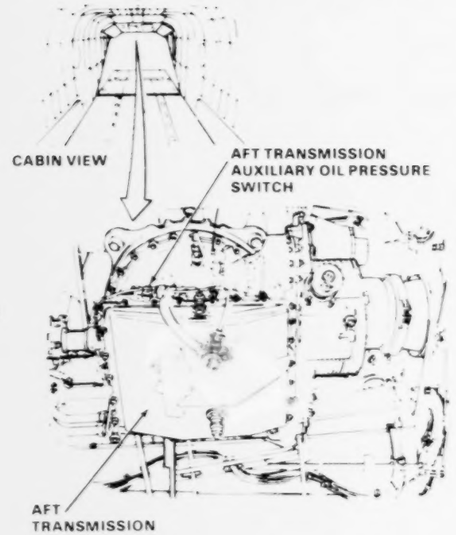


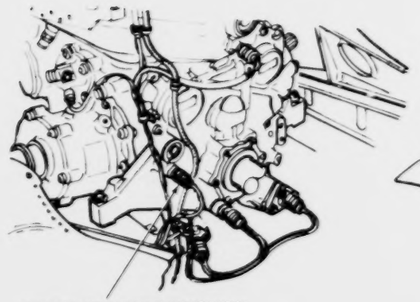
VIEW OF MAINTENANCE PANEL BACK





VIEW A





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END OF TASK

8-9.6 FWD, COMB, OR AFT TRANSMISSION AUX OIL PRESS LIGHT STILL ON WHEN ITS PRESSURE SWITCH IS DISCONNECTED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

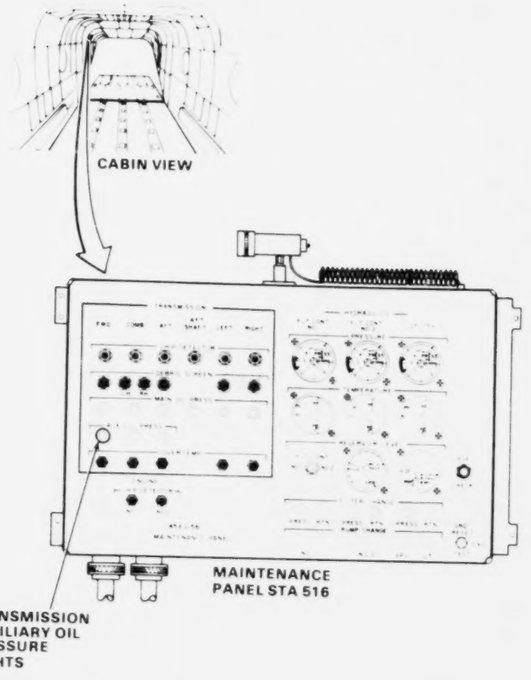
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

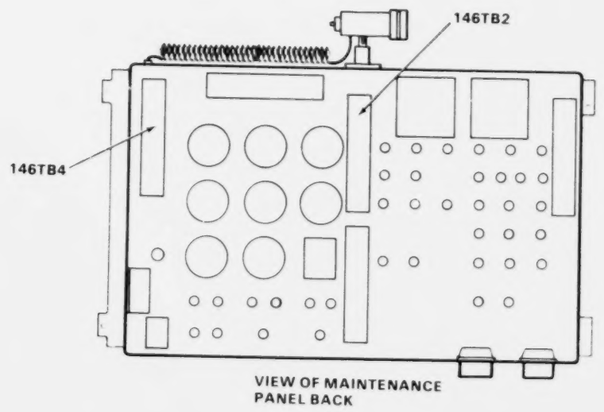
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off





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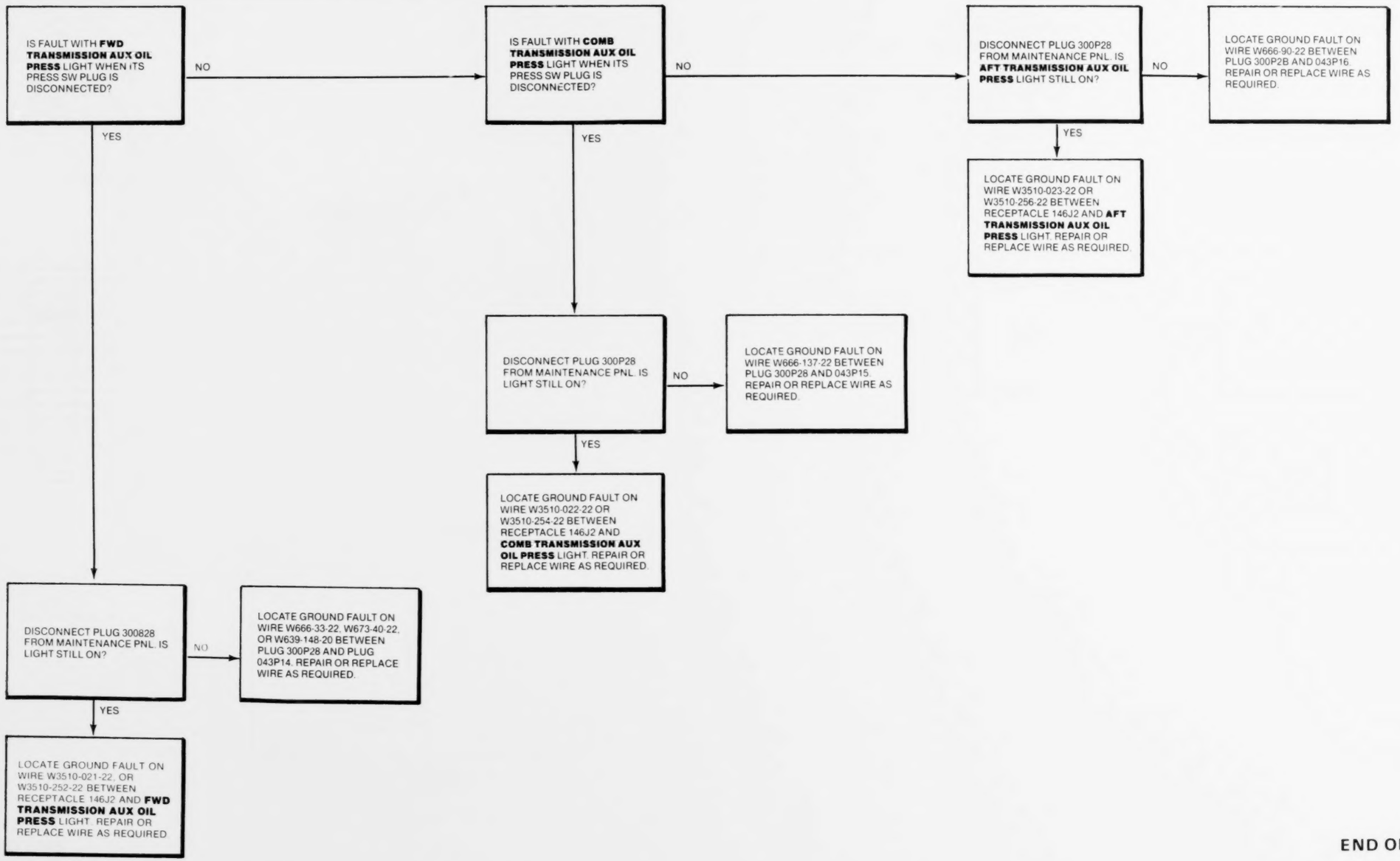
8-9.6 FWD, COMB, OR AFT TRANSMISSION AUX OIL PRESS LIGHT IS STILL ON WHEN ITS PRESSURE SWITCH IS DISCONNECTED (Continued)


IS FAULT WITH **FWD TRANSMISSION AUX OIL PRESS** LIGHT WHEN ITS PRESS SW PLUG IS DISCONNECTED?
NO
IS FAULT WITH **COMB TRANSMISSION AUX OIL PRESS** LIGHT WHEN ITS PRESS SW PLUG IS DISCONNECTED?
NO
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL. IS **AFT TRANSMISSION AUX OIL PRESS** LIGHT STILL ON?
NO
LOCATE GROUND FAULT ON WIRE W666-90-22 BETWEEN PLUG 300P2B AND 043P16. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W3510-023-22 OR W3510-256-22 BETWEEN RECEPTACLE 146J2 AND **AFT TRANSMISSION AUX OIL PRESS** LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL. IS LIGHT STILL ON?
NO
LOCATE GROUND FAULT ON WIRE W666-137-22 BETWEEN PLUG 300P28 AND 043P15. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W3510-022-22 OR W3510-254-22 BETWEEN RECEPTACLE 146J2 AND **COMB TRANSMISSION AUX OIL PRESS** LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
DISCONNECT PLUG 300828 FROM MAINTENANCE PNL. IS LIGHT STILL ON?
NO
LOCATE GROUND FAULT ON WIRE W666-33-22, W673-40-22, OR W639-148-20 BETWEEN PLUG 300P28 AND PLUG 043P14. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W3510-021-22, OR W3510-252-22 BETWEEN RECEPTACLE 146J2 AND **FWD TRANSMISSION AUX OIL PRESS** LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

8-9.7 XMSN AUX OIL PRESS CAPSULE ON WHEN ALL PRESSURE SWITCHES ARE DISCONNECTED

Fault Isolation Procedure

INITIAL SETUP

Applicable Configurations:
All

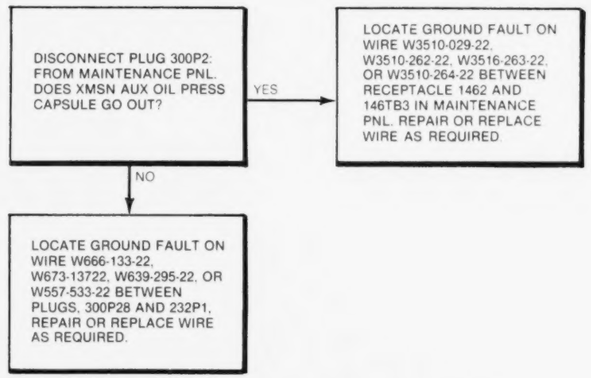
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Materials

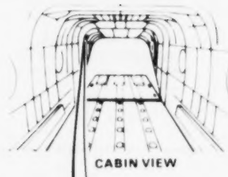
Materials:
None

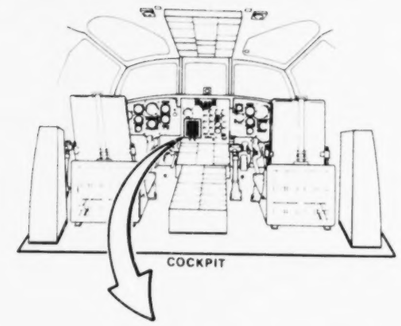
Personnel Required:
68F20 Aircraft Electrician

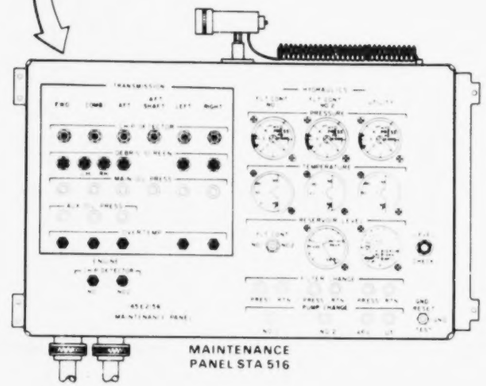
References:
TM 55-1520-240-23

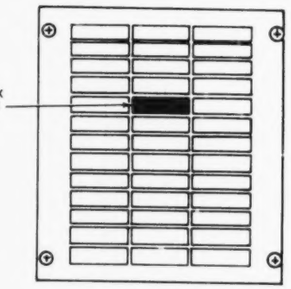
Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off

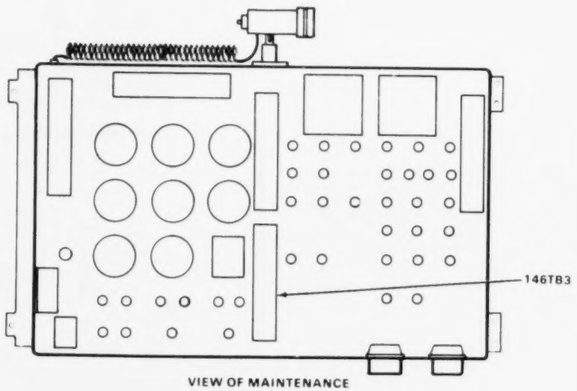

DISCONNECT PLUG 300P2: FROM MAINTENANCE PNL. DOES XMSN AUX OIL PRESS CAPSULE GO OUT?
YES
LOCATE GROUND FAULT ON WIRE W3510-029-22, W3510-262-22, W3516-263-22, OR W3510-264-22 BETWEEN RECEPTACLE 1462 AND 146TB3 IN MAINTENANCE PNL. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE GROUND FAULT ON WIRE W666-133-22, W673-13722, W639-295-22, OR W557-533-22 BETWEEN PLUGS, 300P28 AND 232P1. REPAIR OR REPLACE WIRE AS REQUIRED.











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END OF TASK

8-9.8 XMSN AUX OIL PRESS CAPSULE DOES NOT COME ON DURING TEST

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

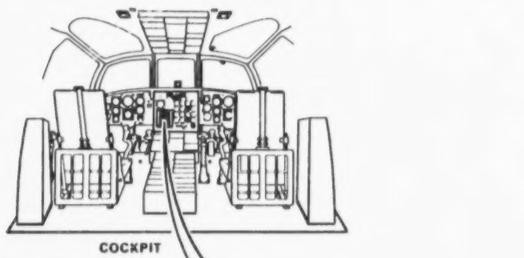
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

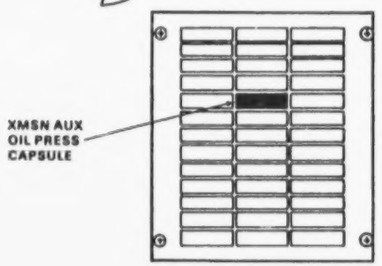
Materials:
None

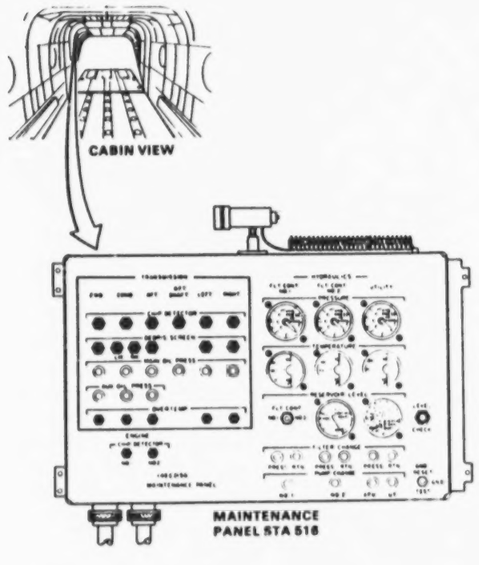
Personnel Required:
68F20 Aircraft Electrician

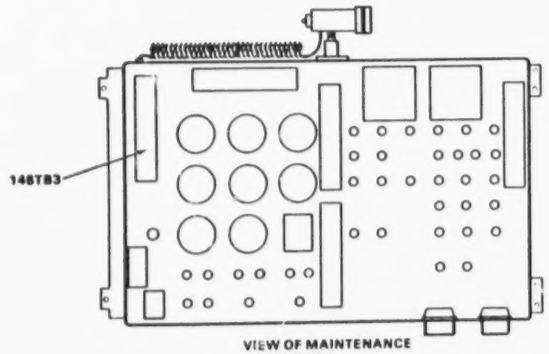
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off









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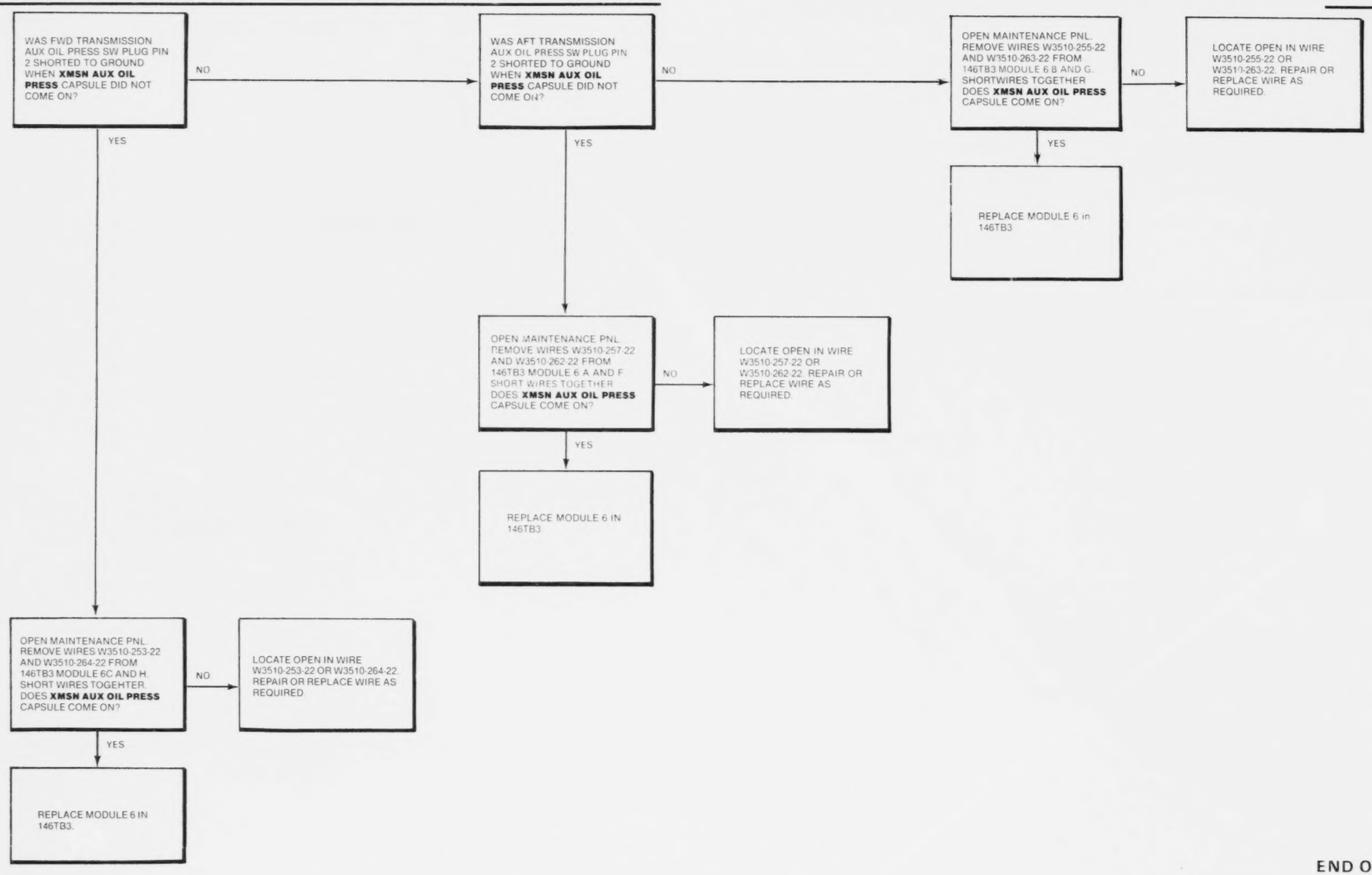
8-9.8 XMSN AUX OIL PRESS CAPSULE DOES NOT COME ON DURING TEST (Continued)


WAS FWD TRANSMISSION AUX OIL PRESS SW PLUG PIN 2 SHORTED TO GROUND WHEN **XMSN AUX OIL PRESS** CAPSULE DID NOT COME ON?
NO
YES
WAS AFT TRANSMISSION AUX OIL PRESS SW PLUG PIN 2 SHORTED TO GROUND WHEN **XMSN AUX OIL PRESS** CAPSULE DID NOT COME ON?
NO
YES
OPEN MAINTENANCE PNL. REMOVE WIRES W3510-255-22 AND W3510-263-22 FROM 146TB3 MODULE 6 B AND G. SHORTWIRES TOGETHER DOES **XMSN AUX OIL PRESS** CAPSULE COME ON?
NO
YES
LOCATE OPEN IN WIRE W3510-255-22 OR W3510-263-22. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE MODULE 6 in 146TB3
OPEN MAINTENANCE PNL. REMOVE WIRES W3510-257-22 AND W3510-262-22 FROM 146TB3 MODULE 6 A AND F. SHORT WIRES TOGETHER. DOES **XMSN AUX OIL PRESS** CAPSULE COME ON?
NO
YES
LOCATE OPEN IN WIRE W3510-257-22 OR W3510-262-22. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE MODULE 6 IN 146TB3.
OPEN MAINTENANCE PNL. REMOVE WIRES W3510-253-22 AND W3510-264-22 FROM 146TB3 MODULE 6C AND H. SHORT WIRES TOGEHTER. DOES **XMSN AUX OIL PRESS** CAPSULE COME ON?
NO
YES
LOCATE OPEN IN WIRE W3510-253-22 OR W3510-264-22. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE MODULE 6 IN 146TB3.

END OF TASK

8-9.9 FWD, COMB, OR AFT TRANSMISSION AUX OIL PRESS LIGHT DOES NOT COME ON WHEN PRESSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

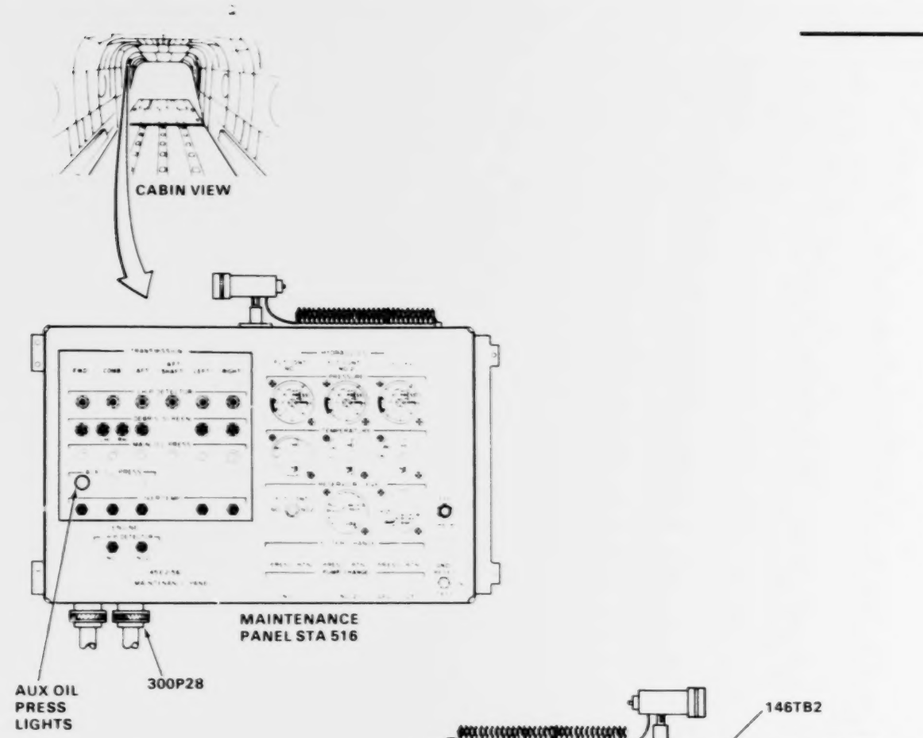
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

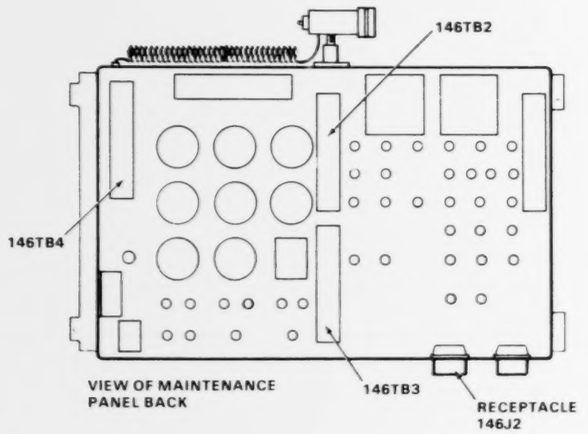
Materials:
None

Personnel Required
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off





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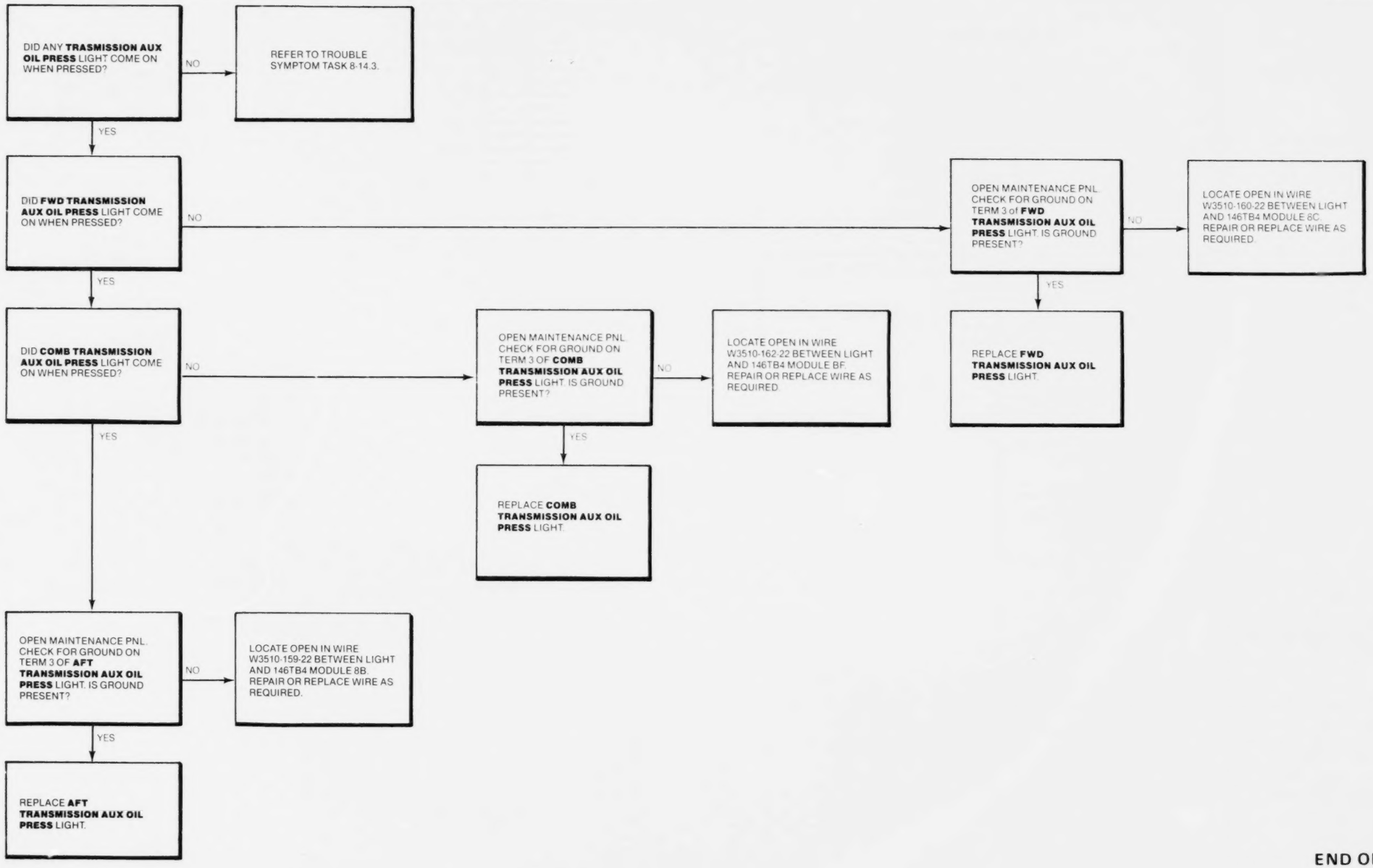
8-9.9 FWD, COMB, OR AFT TRANSMISSION AUX OIL PRESS LIGHT DOES NOT COME ON WHEN PRESSED (Continued)


DID ANY **TRASMISSION AUX OIL PRESS** LIGHT COME ON WHEN PRESSED?
NO
REFER TO TROUBLE SYMPTOM TASK 8-14.3.
YES
DID **FWD TRANSMISSION AUX OIL PRESS** LIGHT COME ON WHEN PRESSED?
NO
OPEN MAINTENANCE PNL. CHECK FOR GROUND ON TERM 3 of **FWD TRANSMISSION AUX OIL PRESS** LIGHT. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W3510-160-22 BETWEEN LIGHT AND 146TB4 MODULE 8C. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE **FWD TRANSMISSION AUX OIL PRESS** LIGHT.
YES
DID **COMB TRANSMISSION AUX OIL PRESS** LIGHT COME ON WHEN PRESSED?
NO
OPEN MAINTENANCE PNL. CHECK FOR GROUND ON TERM 3 OF **COMB TRANSMISSION AUX OIL PRESS** LIGHT. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W3510-162-22 BETWEEN LIGHT AND 146TB4 MODULE 8F. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE **COMB TRANSMISSION AUX OIL PRESS** LIGHT.
YES
OPEN MAINTENANCE PNL. CHECK FOR GROUND ON TERM 3 OF **AFT TRANSMISSION AUX OIL PRESS** LIGHT. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W3510-159-22 BETWEEN LIGHT AND 146TB4 MODULE 8B. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE **AFT TRANSMISSION AUX OIL PRESS** LIGHT.

END OF TASK

8-9.10 XMSN OIL PRESS CAPSULE NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

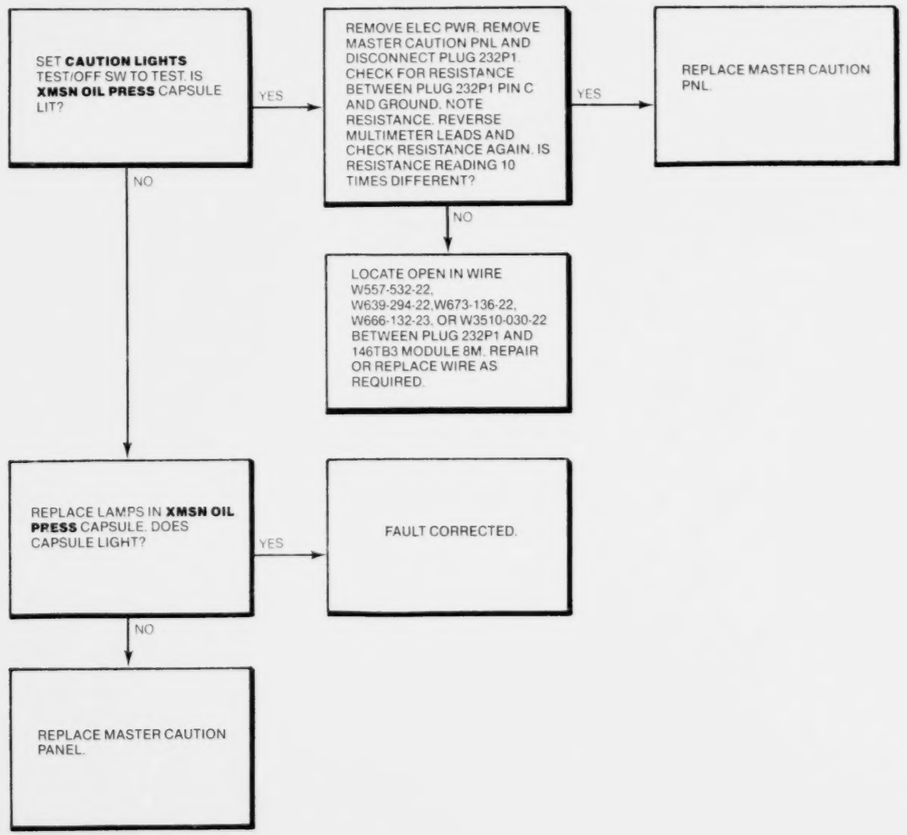
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

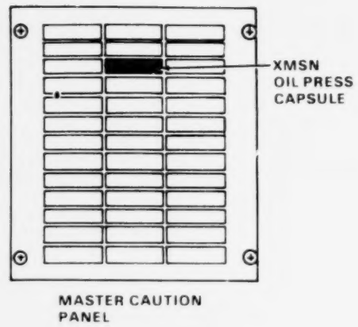
Materials:
None

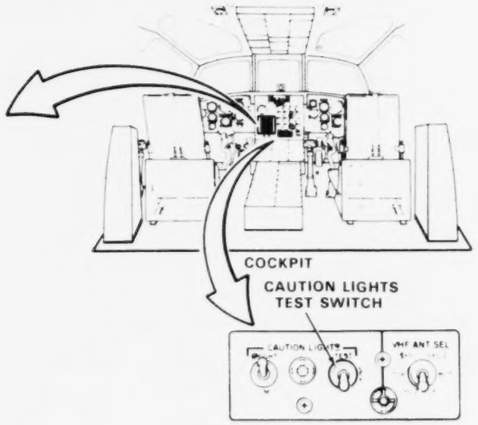
Personnel Required
68F20 Aircraft Electrician

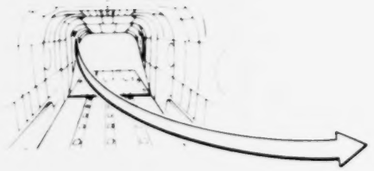
References:
TM 55-1520-240-23

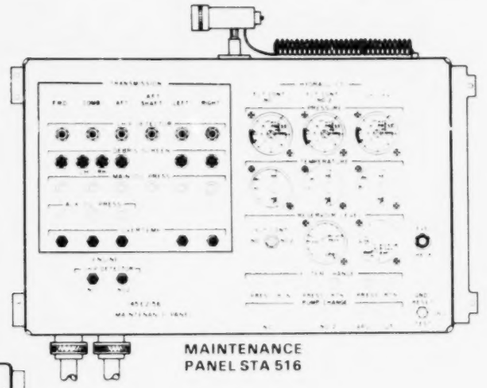
Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off

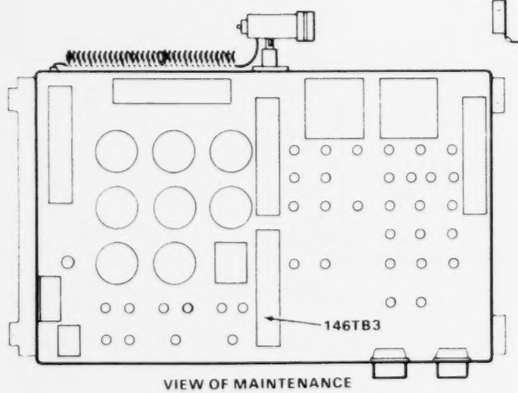

SET CAUTION LIGHTS TEST/OFF SW TO TEST. IS XMSN OIL PRESS CAPSULE LIT?
YES
REMOVE ELEC PWR. REMOVE MASTER CAUTION PNL AND DISCONNECT PLUG 232P1. CHECK FOR RESISTANCE BETWEEN PLUG 232P1 PIN C AND GROUND. NOTE RESISTANCE. REVERSE MULTIMETER LEADS AND CHECK RESISTANCE AGAIN. IS RESISTANCE READING 10 TIMES DIFFERENT?
YES
REPLACE MASTER CAUTION PNL.
NO
LOCATE OPEN IN WIRE W557-532-22, W639-294-22, W673-136-22, W666-132-23, OR W3510-030-22 BETWEEN PLUG 232P1 AND 146TB3 MODULE 8M. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE LAMPS IN XMSN OIL PRESS CAPSULE. DOES CAPSULE LIGHT?
YES
FAULT CORRECTED.
NO
REPLACE MASTER CAUTION PANEL.











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END OF TASK

8-9.11 FWD, COMB, AFT SHAFT, LEFT, RIGHT, OR AFT TRANSMISSION MAIN OIL PRESS LIGHT IS OUT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

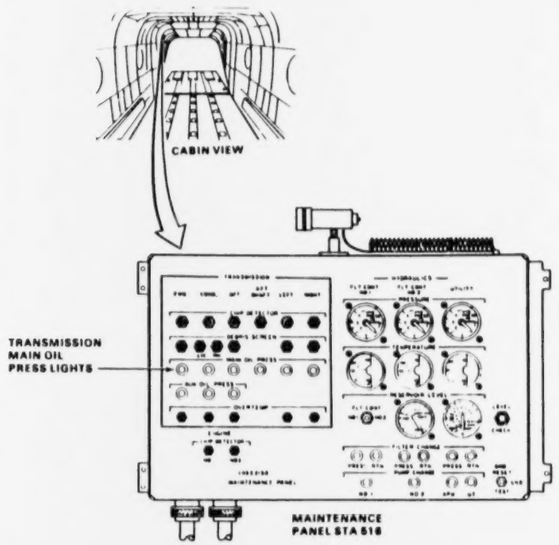
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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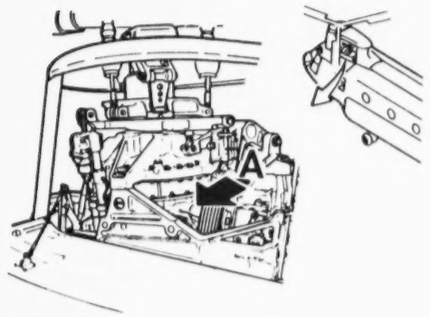

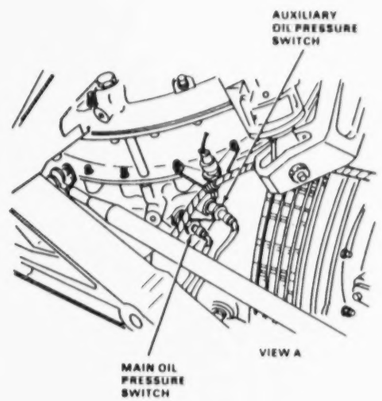

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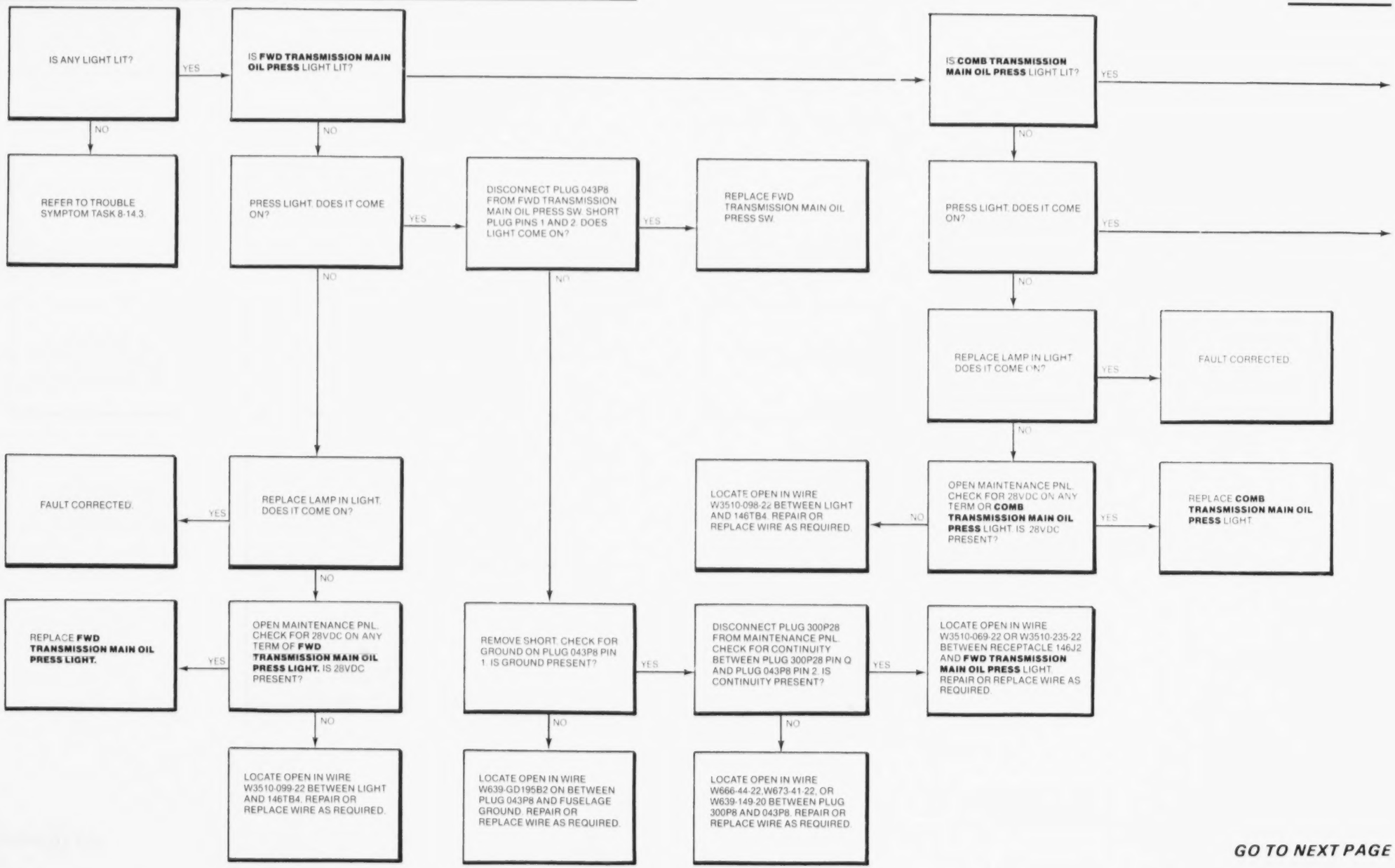
8-9.11 FWD, COMB, AFT SHAFT, LEFT, RIGHT, OR AFT TRANSMISSION MAIN OIL PRESS LIGHT IS OUT (Continued)


IS ANY LIGHT LIT?
YES
IS **FWD TRANSMISSION MAIN OIL PRESS** LIGHT LIT?
NO
REFER TO TROUBLE SYMPTOM TASK 8-14.3.
PRESS LIGHT. DOES IT COME ON?
YES
DISCONNECT PLUG 043P8 FROM FWD TRANSMISSION MAIN OIL PRESS SW. SHORT PLUG PINS 1 AND 2. DOES LIGHT COME ON?
YES
REPLACE FWD TRANSMISSION MAIN OIL PRESS SW.
NO
FAULT CORRECTED.
YES
REPLACE LAMP IN LIGHT. DOES IT COME ON?
NO
REPLACE **FWD TRANSMISSION MAIN OIL PRESS LIGHT.**
YES
OPEN MAINTENANCE PNL. CHECK FOR 28VDC ON ANY TERM OF **FWD TRANSMISSION MAIN OIL PRESS LIGHT.** IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W3510-099-22 BETWEEN LIGHT AND 146TB4. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE SHORT. CHECK FOR GROUND ON PLUG 043P8 PIN 1. IS GROUND PRESENT?
YES
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL. CHECK FOR CONTINUITY BETWEEN PLUG 300P28 PIN Q AND PLUG 043P8 PIN 2. IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRE W3510-069-22 OR W3510-235-22 BETWEEN RECEPTACLE 146J2 AND **FWD TRANSMISSION MAIN OIL PRESS** LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W639-GD195B2 ON BETWEEN PLUG 043P8 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W666-44-22,W673-41-22, OR W639-149-20 BETWEEN PLUG 300P8 AND 043P8. REPAIR OR REPLACE WIRE AS REQUIRED.
IS **COMB TRANSMISSION MAIN OIL PRESS** LIGHT LIT?
YES
NO
PRESS LIGHT. DOES IT COME ON?
YES
NO
REPLACE LAMP IN LIGHT. DOES IT COME ON?
YES
FAULT CORRECTED.
NO
OPEN MAINTENANCE PNL. CHECK FOR 28VDC ON ANY TERM OR **COMB TRANSMISSION MAIN OIL PRESS** LIGHT. IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W3510-098-22 BETWEEN LIGHT AND 146TB4. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE **COMB TRANSMISSION MAIN OIL PRESS** LIGHT.

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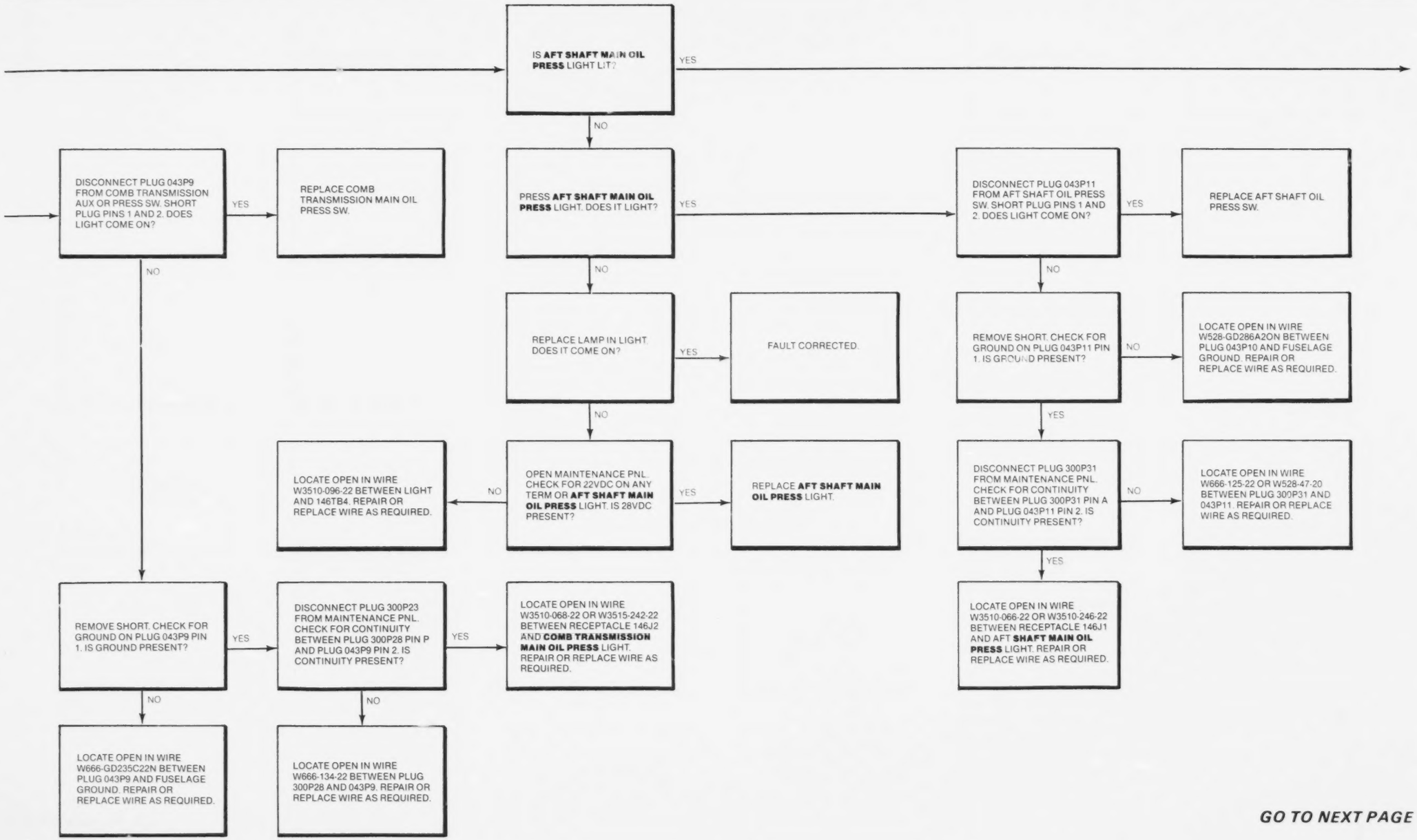
8-9.11 FWD, COMB, AFT SHAFT, LEFT, RIGHT, OR AFT TRANSMISSION MAIN OIL PRESS LIGHT IS OUT (Continued)


IS AFT SHAFT MAIN OIL PRESS LIGHT LIT?
YES
NO
DISCONNECT PLUG 043P9 FROM COMB TRANSMISSION AUX OR PRESS SW. SHORT PLUG PINS 1 AND 2. DOES LIGHT COME ON?
YES
REPLACE COMB TRANSMISSION MAIN OIL PRESS SW.
NO
PRESS AFT SHAFT MAIN OIL PRESS LIGHT. DOES IT LIGHT?
YES
NO
DISCONNECT PLUG 043P11 FROM AFT SHAFT OIL PRESS SW. SHORT PLUG PINS 1 AND 2. DOES LIGHT COME ON?
YES
REPLACE AFT SHAFT OIL PRESS SW.
NO
REPLACE LAMP IN LIGHT. DOES IT COME ON?
YES
FAULT CORRECTED.
NO
REMOVE SHORT. CHECK FOR GROUND ON PLUG 043P11 PIN 1. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W528-GD286A2ON BETWEEN PLUG 043P10 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE OPEN IN WIRE W3510-096-22 BETWEEN LIGHT AND 146TB4. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
OPEN MAINTENANCE PNL. CHECK FOR 22VDC ON ANY TERM OR AFT SHAFT MAIN OIL PRESS LIGHT. IS 28VDC PRESENT?
YES
REPLACE AFT SHAFT MAIN OIL PRESS LIGHT.
DISCONNECT PLUG 300P31 FROM MAINTENANCE PNL. CHECK FOR CONTINUITY BETWEEN PLUG 300P31 PIN A AND PLUG 043P11 PIN 2. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W666-125-22 OR W528-47-20 BETWEEN PLUG 300P31 AND 043P11. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE OPEN IN WIRE W3510-066-22 OR W3510-246-22 BETWEEN RECEPTACLE 146J1 AND AFT SHAFT MAIN OIL PRESS LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE SHORT. CHECK FOR GROUND ON PLUG 043P9 PIN 1. IS GROUND PRESENT?
YES
DISCONNECT PLUG 300P23 FROM MAINTENANCE PNL. CHECK FOR CONTINUITY BETWEEN PLUG 300P28 PIN P AND PLUG 043P9 PIN 2. IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRE W3510-068-22 OR W3515-242-22 BETWEEN RECEPTACLE 146J2 AND COMB TRANSMISSION MAIN OIL PRESS LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W666-GD235C22N BETWEEN PLUG 043P9 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W666-134-22 BETWEEN PLUG 300P28 AND 043P9. REPAIR OR REPLACE WIRE AS REQUIRED.

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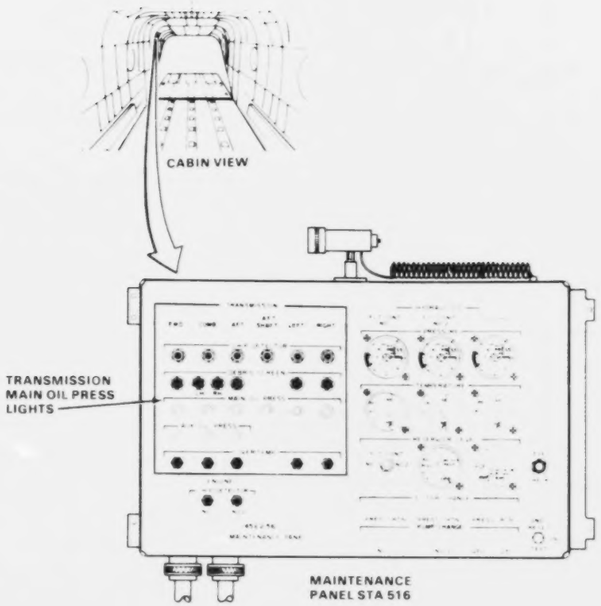
8-9.11 FWD, COMB, AFT, SHAFT, LEFT, RIGHT OR AFT TRANSMISSION MAIN OIL PRESS LIGHT IS OUT (Continued)



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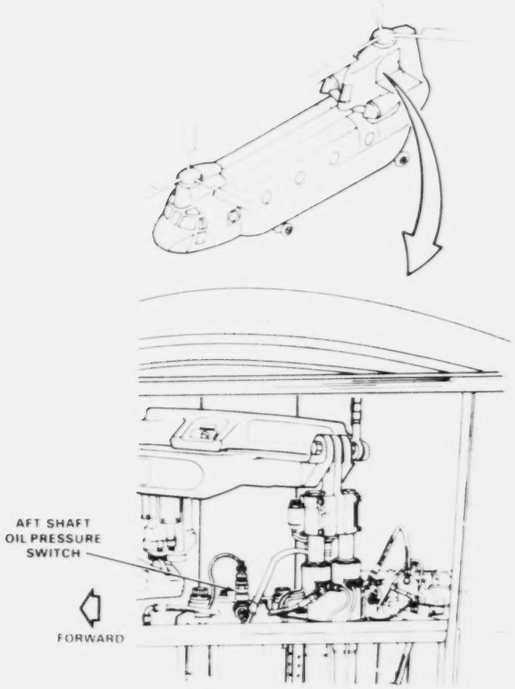

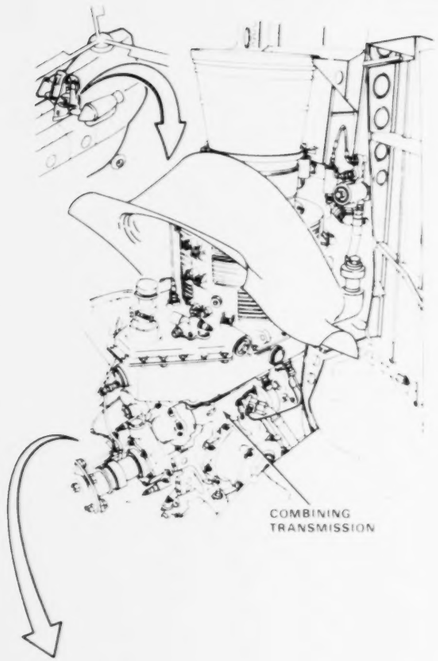

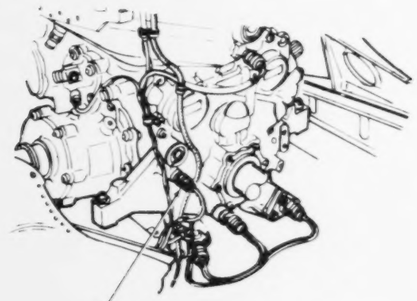

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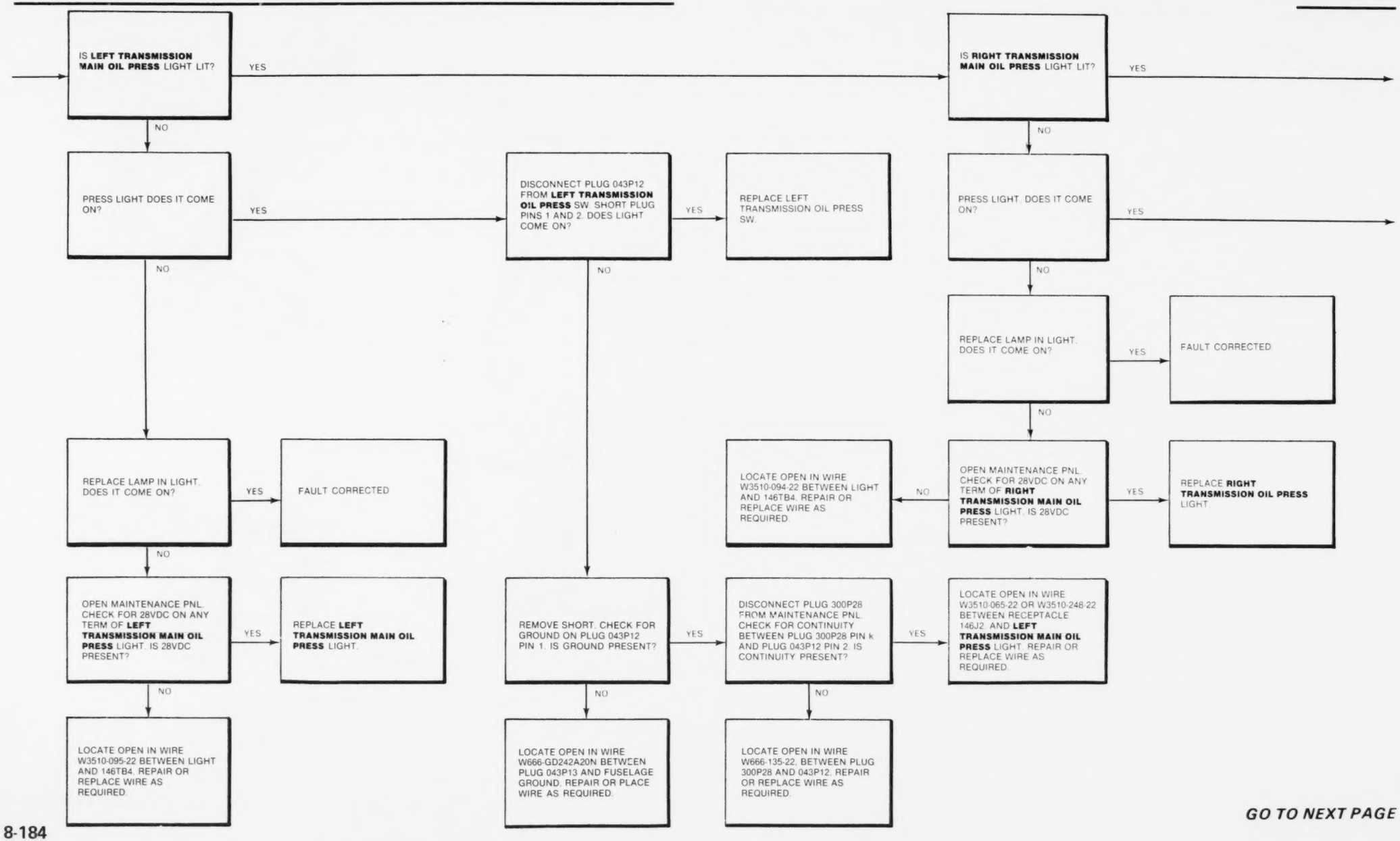
8-9.11 FWD, COMB, AFT SHAFT, LEFT, RIGHT, OR AFT TRANSMISSION MAIN OIL PRESS LIGHT IS OUT (Continued)


IS **LEFT TRANSMISSION MAIN OIL PRESS** LIGHT LIT?
YES
NO
PRESS LIGHT DOES IT COME ON?
YES
NO
DISCONNECT PLUG 043P12 FROM **LEFT TRANSMISSION OIL PRESS** SW. SHORT PLUG PINS 1 AND 2. DOES LIGHT COME ON?
YES
NO
REPLACE LEFT TRANSMISSION OIL PRESS SW.
REPLACE LAMP IN LIGHT. DOES IT COME ON?
YES
NO
FAULT CORRECTED
OPEN MAINTENANCE PNL. CHECK FOR 28VDC ON ANY TERM OF **LEFT TRANSMISSION MAIN OIL PRESS** LIGHT. IS 28VDC PRESENT?
YES
NO
REPLACE **LEFT TRANSMISSION MAIN OIL PRESS** LIGHT.
LOCATE OPEN IN WIRE W3510-095-22 BETWEEN LIGHT AND 146TB4. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE SHORT. CHECK FOR GROUND ON PLUG 043P12 PIN 1. IS GROUND PRESENT?
YES
NO
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL. CHECK FOR CONTINUITY BETWEEN PLUG 300P28 PIN k AND PLUG 043P12 PIN 2. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W3510-065-22 OR W3510-248-22 BETWEEN RECEPTACLE 146J2. AND **LEFT TRANSMISSION MAIN OIL PRESS** LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE OPEN IN WIRE W666-GD242A20N BETWEEN PLUG 043P13 AND FUSELAGE GROUND. REPAIR OR PLACE WIRE AS REQUIRED.
LOCATE OPEN IN WIRE W666-135-22. BETWEEN PLUG 300P28 AND 043P12. REPAIR OR REPLACE WIRE AS REQUIRED.
IS **RIGHT TRANSMISSION MAIN OIL PRESS** LIGHT LIT?
YES
NO
PRESS LIGHT. DOES IT COME ON?
YES
NO
REPLACE LAMP IN LIGHT. DOES IT COME ON?
YES
NO
FAULT CORRECTED
OPEN MAINTENANCE PNL. CHECK FOR 28VDC ON ANY TERM OF **RIGHT TRANSMISSION MAIN OIL PRESS** LIGHT. IS 28VDC PRESENT?
NO
YES
LOCATE OPEN IN WIRE W3510-094-22 BETWEEN LIGHT AND 146TB4. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE **RIGHT TRANSMISSION OIL PRESS** LIGHT.

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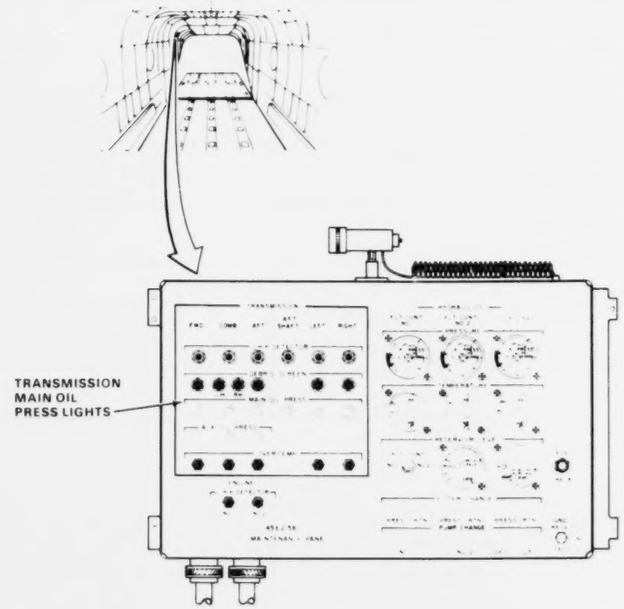
8-9.11 FWD, COMB, AFT SHAFT, LEFT, RIGHT, OR AFT TRANSMISSION MAIN OIL PRESS LIGHT IS OUT (Continued)



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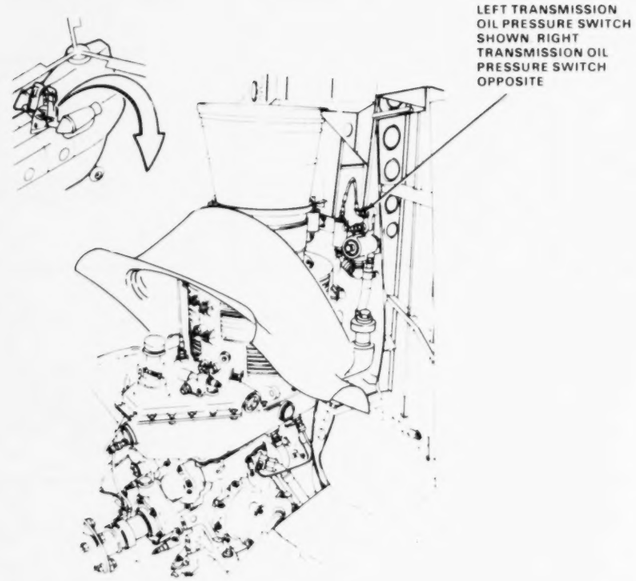

COMBINING
TRANSMISSION

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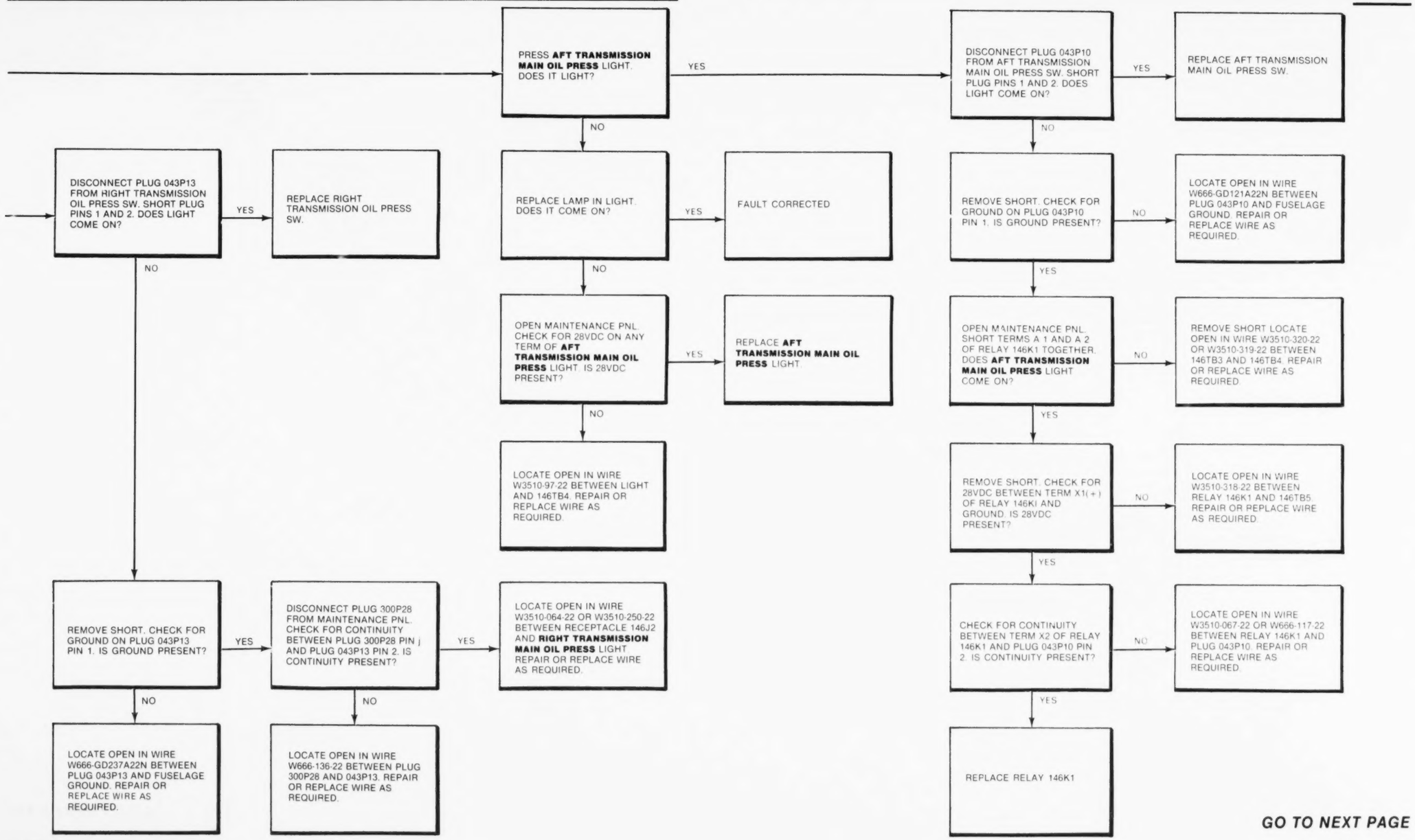
8-9.11 FWD, COMB, AFT SHAFT, LEFT, RIGHT, OR AFT TRANSMISSION MAIN OIL PRESS LIGHT IS OUT (Continued)


PRESS AFT TRANSMISSION MAIN OIL PRESS LIGHT. DOES IT LIGHT?
YES
NO
DISCONNECT PLUG 043P13 FROM RIGHT TRANSMISSION OIL PRESS SW. SHORT PLUG PINS 1 AND 2. DOES LIGHT COME ON?
YES
REPLACE RIGHT TRANSMISSION OIL PRESS SW.
NO
REMOVE SHORT. CHECK FOR GROUND ON PLUG 043P13 PIN 1. IS GROUND PRESENT?
YES
NO
LOCATE OPEN IN WIRE W666-GD237A22N BETWEEN PLUG 043P13 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL. CHECK FOR CONTINUITY BETWEEN PLUG 300P28 PIN J AND PLUG 043P13 PIN 2. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W666-136-22 BETWEEN PLUG 300P28 AND 043P13. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE OPEN IN WIRE W3510-064-22 OR W3510-250-22 BETWEEN RECEPTACLE 146J2 AND RIGHT TRANSMISSION MAIN OIL PRESS LIGHT REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE LAMP IN LIGHT. DOES IT COME ON?
YES
FAULT CORRECTED
NO
OPEN MAINTENANCE PNL. CHECK FOR 28VDC ON ANY TERM OF AFT TRANSMISSION MAIN OIL PRESS LIGHT. IS 28VDC PRESENT?
YES
REPLACE AFT TRANSMISSION MAIN OIL PRESS LIGHT.
NO
LOCATE OPEN IN WIRE W3510-97-22 BETWEEN LIGHT AND 146TB4. REPAIR OR REPLACE WIRE AS REQUIRED.
DISCONNECT PLUG 043P10 FROM AFT TRANSMISSION MAIN OIL PRESS SW. SHORT PLUG PINS 1 AND 2. DOES LIGHT COME ON?
YES
REPLACE AFT TRANSMISSION MAIN OIL PRESS SW.
NO
REMOVE SHORT. CHECK FOR GROUND ON PLUG 043P10 PIN 1. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W666-GD121A22N BETWEEN PLUG 043P10 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
OPEN MAINTENANCE PNL. SHORT TERMS A 1 AND A 2 OF RELAY 146K1 TOGETHER. DOES AFT TRANSMISSION MAIN OIL PRESS LIGHT COME ON?
NO
REMOVE SHORT LOCATE OPEN IN WIRE W3510-320-22 OR W3510-319-22 BETWEEN 146TB3 AND 146TB4. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REMOVE SHORT. CHECK FOR 28VDC BETWEEN TERM X1(+) OF RELAY 146KI AND GROUND. IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W3510-318-22 BETWEEN RELAY 146K1 AND 146TB5. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR CONTINUITY BETWEEN TERM X2 OF RELAY 146K1 AND PLUG 043P10 PIN 2. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W3510-067-22 OR W666-117-22 BETWEEN RELAY 146K1 AND PLUG 043P10. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE RELAY 146K1

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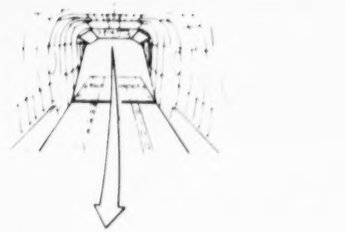
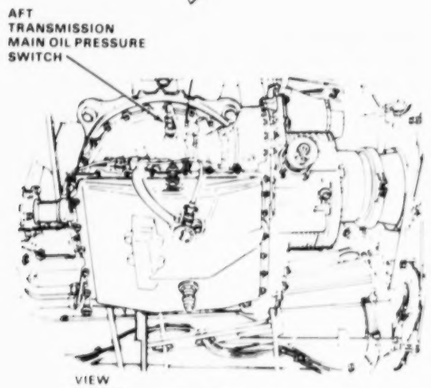
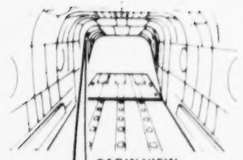
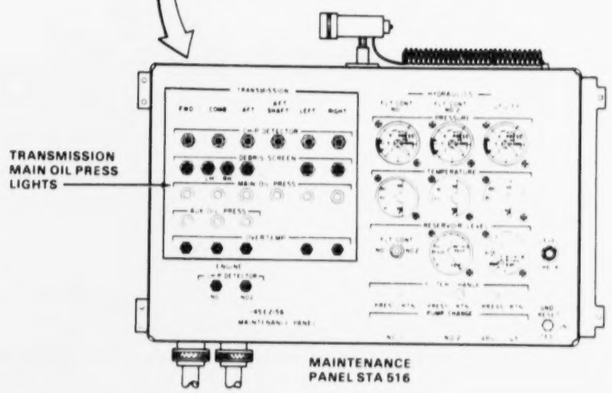
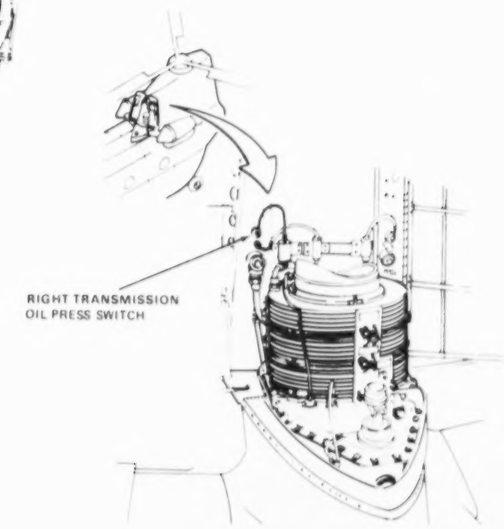
8-9.11 FWD, COMB, AFT SHAFT, LEFT, RIGHT, OR AFT TRANSMISSION MAIN OIL PRESS LIGHT IS OUT (Continued)











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END OF TASK

8-9.12 FWD, COMB, AFT, AFT SHAFT, LEFT, OR RIGHT TRANSMISSION MAIN OIL PRESS LIGHT STILL ON WHEN ITS PRESSURE SWITCH DISCONNECTED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

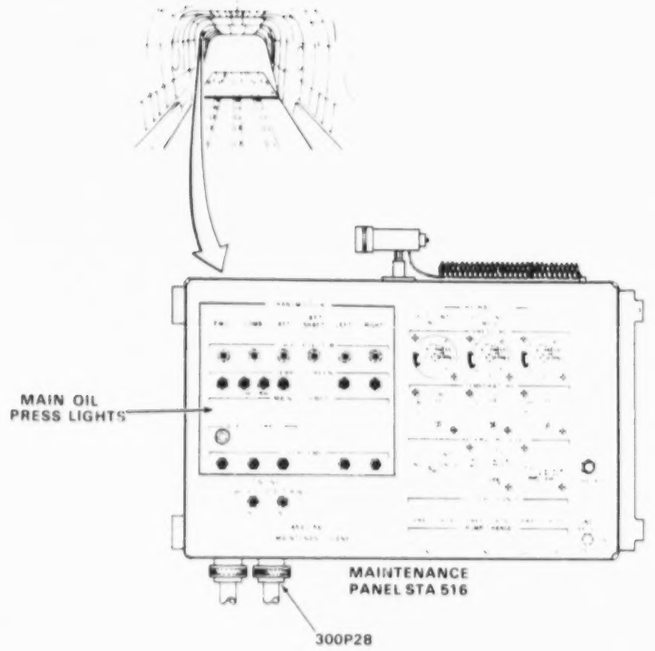
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

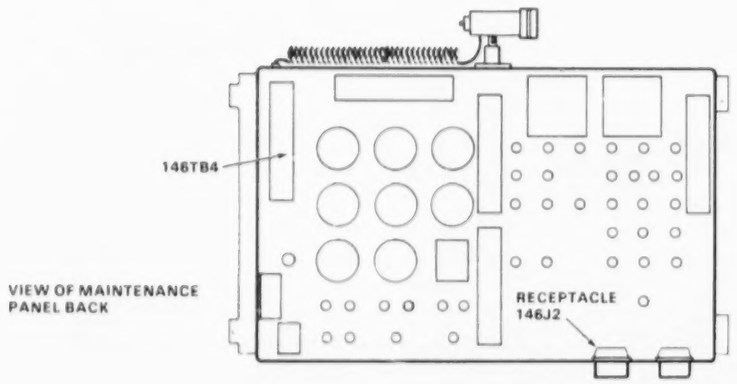
Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off





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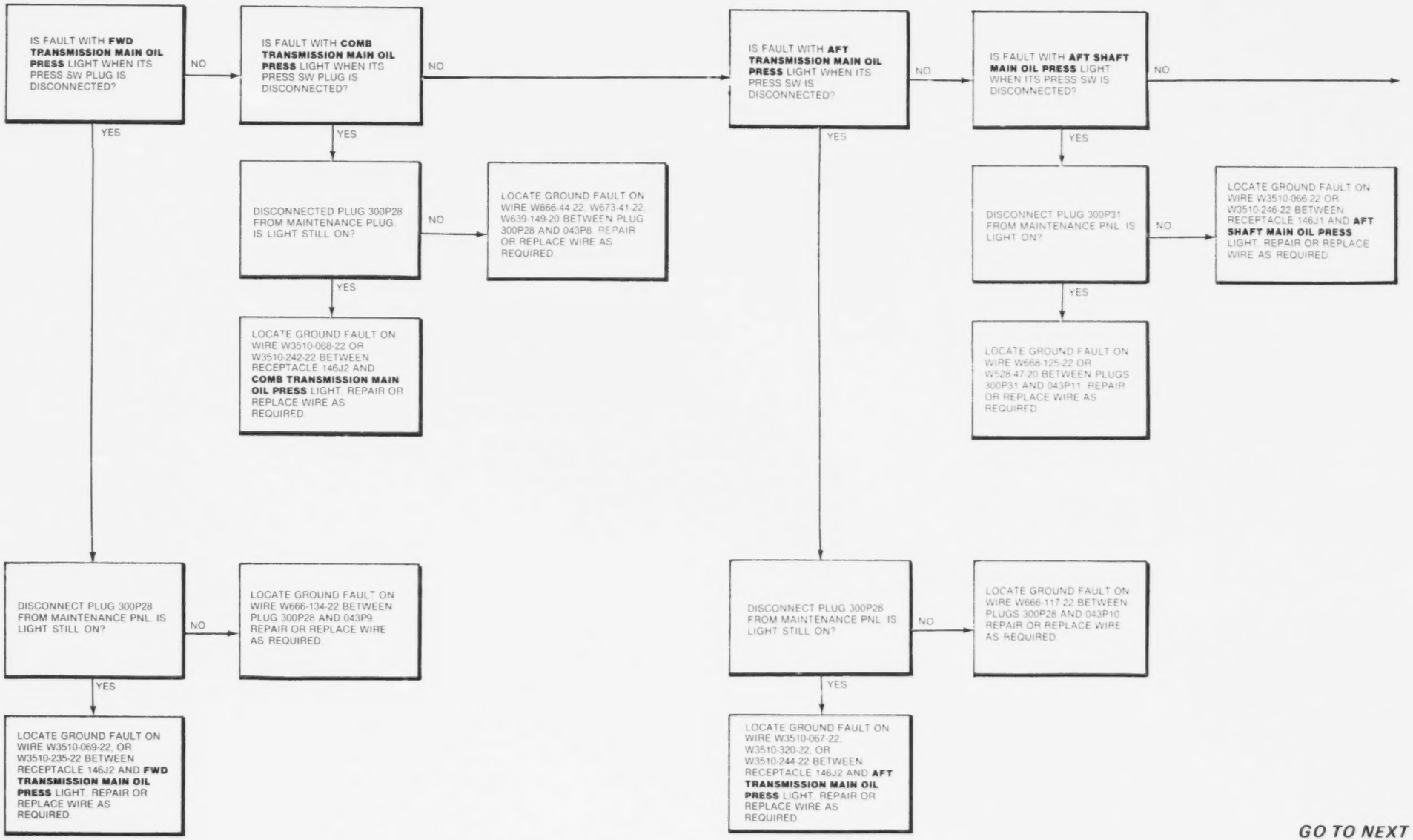
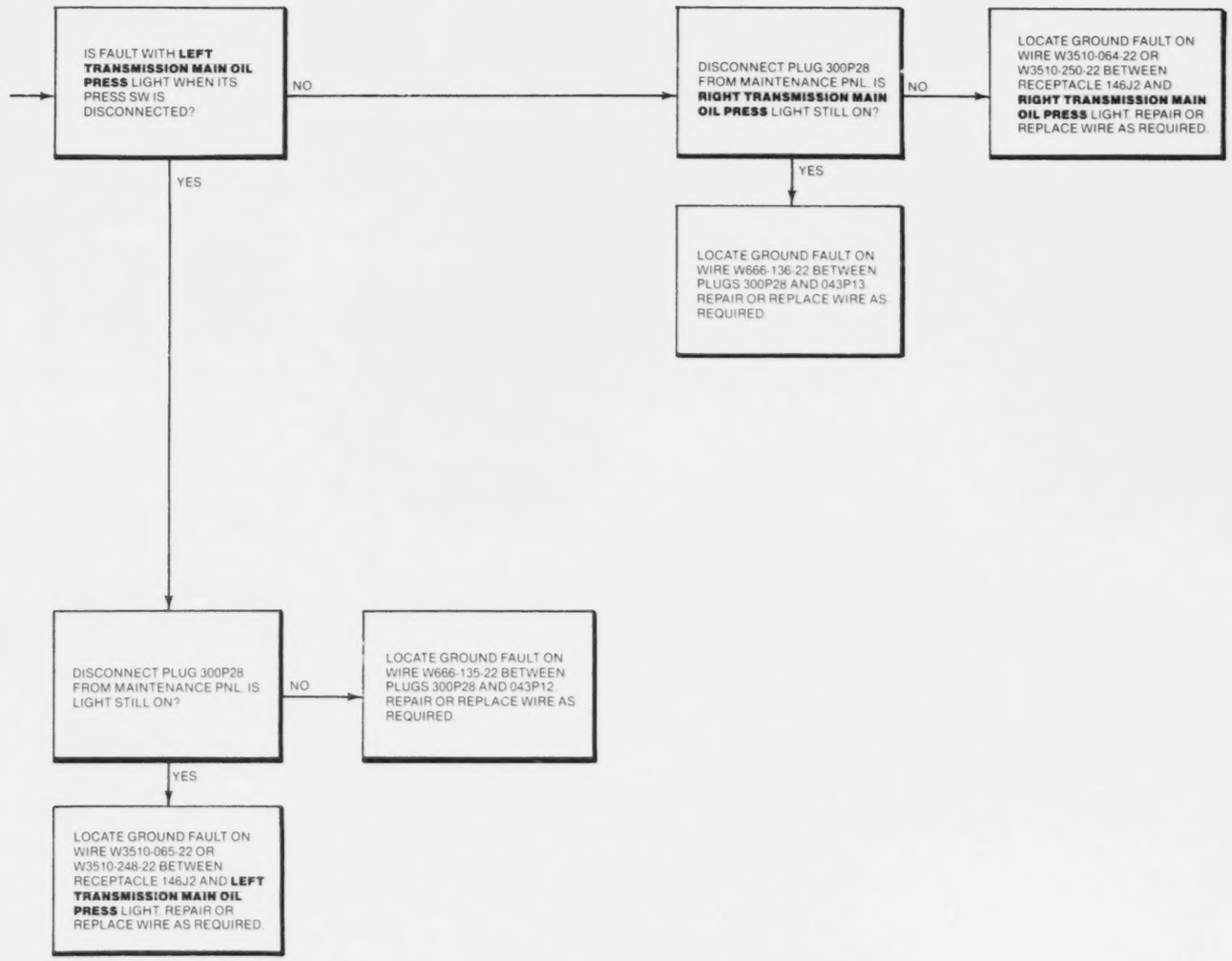
8-9.12 FWD, COMB, AFT, AFT SHAFT, LEFT, OR RIGHT TRANSMISSION MAIN OIL PRESS LIGHT STILL ON WHEN ITS PRESSURE SWITCH DISCONNECTED (Continued)


IS FAULT WITH **FWD TRANSMISSION MAIN OIL PRESS** LIGHT WHEN ITS PRESS SW PLUG IS DISCONNECTED?
NO
YES
IS FAULT WITH **COMB TRANSMISSION MAIN OIL PRESS** LIGHT WHEN ITS PRESS SW PLUG IS DISCONNECTED?
NO
YES
DISCONNECTED PLUG 300P28 FROM MAINTENANCE PLUG. IS LIGHT STILL ON?
NO
LOCATE GROUND FAULT ON WIRE W666-44-22, W673-41-22, W639-149-20 BETWEEN PLUG 300P28 AND 043P8. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W3510-068-22 OR W3510-242-22 BETWEEN RECEPTACLE 146J2 AND **COMB TRANSMISSION MAIN OIL PRESS** LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL. IS LIGHT STILL ON?
NO
LOCATE GROUND FAULT ON WIRE W666-134-22 BETWEEN PLUG 300P28 AND 043P9. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W3510-069-22, OR W3510-235-22 BETWEEN RECEPTACLE 146J2 AND **FWD TRANSMISSION MAIN OIL PRESS** LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.
IS FAULT WITH **AFT TRANSMISSION MAIN OIL PRESS** LIGHT WHEN ITS PRESS SW IS DISCONNECTED?
NO
YES
IS FAULT WITH **AFT SHAFT MAIN OIL PRESS** LIGHT WHEN ITS PRESS SW IS DISCONNECTED?
NO
YES
DISCONNECT PLUG 300P31 FROM MAINTENANCE PNL. IS LIGHT ON?
NO
LOCATE GROUND FAULT ON WIRE W3510-066-22 OR W3510-246-22 BETWEEN RECEPTACLE 146J1 AND **AFT SHAFT MAIN OIL PRESS** LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W666-125-22 OR W528-47-20 BETWEEN PLUGS 300P31 AND 043P11. REPAIR OR REPLACE WIRE AS REQUIRED.
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL. IS LIGHT STILL ON?
NO
LOCATE GROUND FAULT ON WIRE W666-117-22 BETWEEN PLUGS 300P28 AND 043P10. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W3510-067-22, W3510-320-22, OR W3510-244-22 BETWEEN RECEPTACLE 146J2 AND **AFT TRANSMISSION MAIN OIL PRESS** LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.

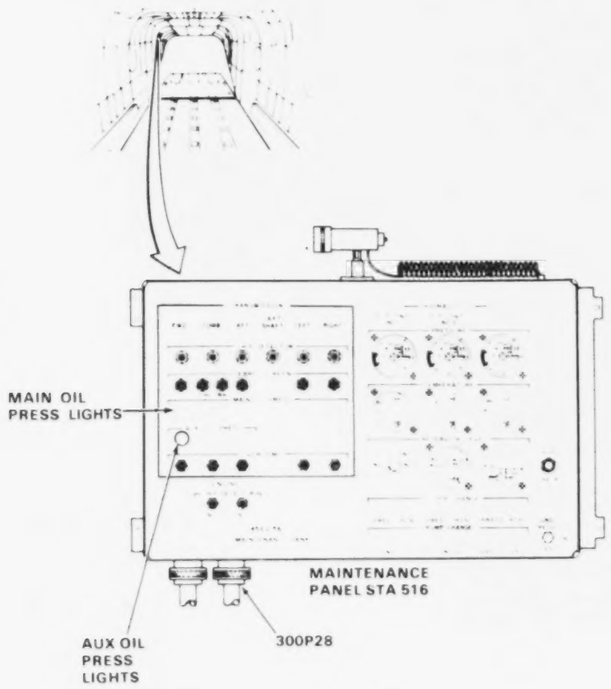
GO TO NEXT PAGE

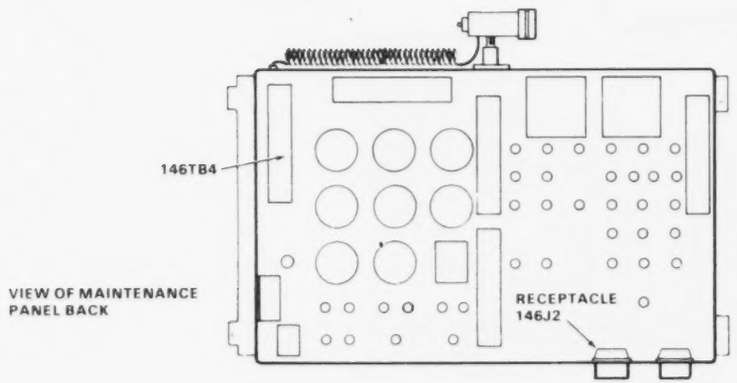
8-9.12 FWD, COMB, AFT, AFT SHAFT, LEFT, OR RIGHT TRANSMISSION MAIN OIL PRESS LIGHT STILL ON WHEN ITS PRESSURE SWITCH DISCONNECTED (Continued)


IS FAULT WITH **LEFT TRANSMISSION MAIN OIL PRESS** LIGHT WHEN ITS PRESS SW IS DISCONNECTED?
NO
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL. IS **RIGHT TRANSMISSION MAIN OIL PRESS** LIGHT STILL ON?
NO
LOCATE GROUND FAULT ON WIRE W3510-064-22 OR W3510-250-22 BETWEEN RECEPTACLE 146J2 AND **RIGHT TRANSMISSION MAIN OIL PRESS** LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W666-136-22 BETWEEN PLUGS 300P28 AND 043P13. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL. IS LIGHT STILL ON?
NO
LOCATE GROUND FAULT ON WIRE W666-135-22 BETWEEN PLUGS 300P28 AND 043P12. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W3510-065-22 OR W3510-248-22 BETWEEN RECEPTACLE 146J2 AND **LEFT TRANSMISSION MAIN OIL PRESS** LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.

GO TO NEXT PAGE

8-9.12 FWD, COMB, AFT, AFT SHAFT, LEFT OR RIGHT TRANSMISSION MAIN OIL PRESS LIGHT STILL ON WHEN ITS PRESSURE SWITCH DISCONNECTED (Continued)





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DI45-11512-SPA

END OF TASK

8-9.13 XMSN OIL PRESS CAPSULE STILL ON WHEN ALL MAIN OIL PRESS SWITCHES ARE DISCONNECTED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

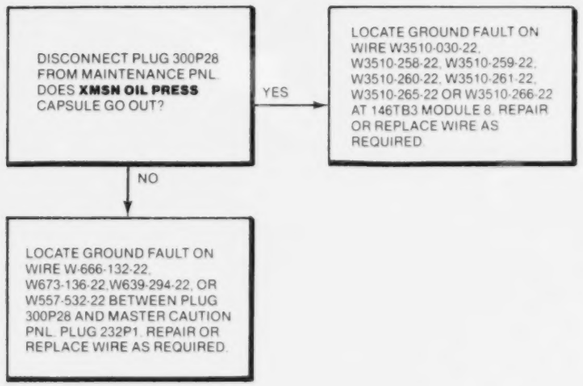
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

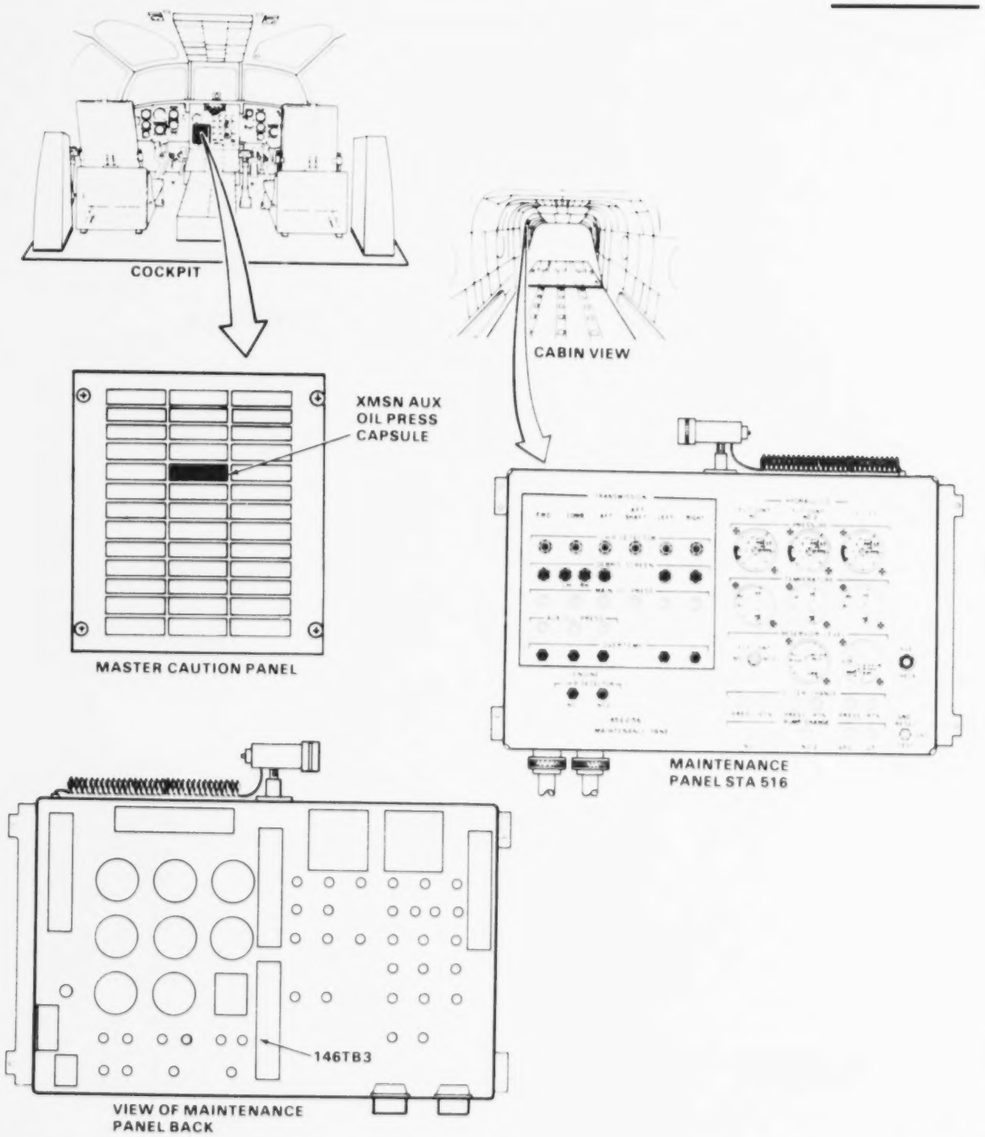
Materials
None

Personnel Required:
68F20

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off


DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL. DOES XMSN OIL PRESS CAPSULE GO OUT?
YES
LOCATE GROUND FAULT ON WIRE W3510-030-22, W3510-258-22, W3510-259-22, W3510-260-22, W3510-261-22, W3510-265-22 OR W3510-266-22 AT 146TB3 MODULE 8. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE GROUND FAULT ON WIRE W-666-132-22, W673-136-22, W639-294-22, OR W557-532-22 BETWEEN PLUG 300P28 AND MASTER CAUTION PNL. PLUG 232P1. REPAIR OR REPLACE WIRE AS REQUIRED.



45 x 54

D145-11513-SPA

END OF TASK

8-9.14 XMSN OIL PRESS CAPSULE DOES NOT COME ON DURING TEST

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

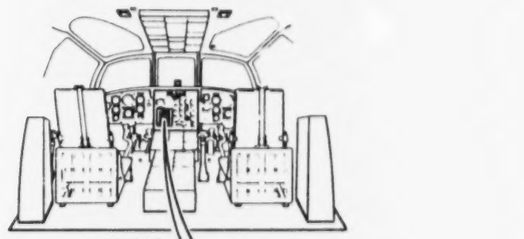
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

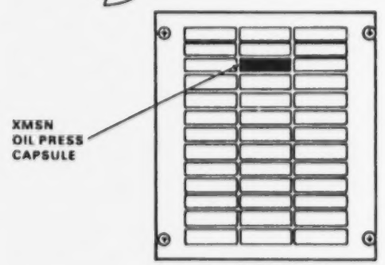
Materials
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off





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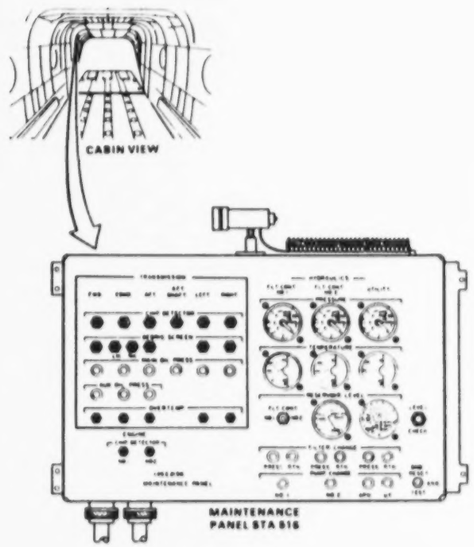

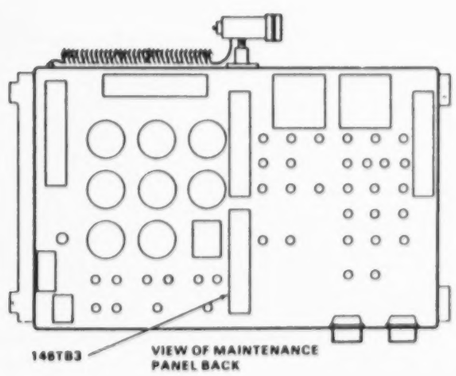

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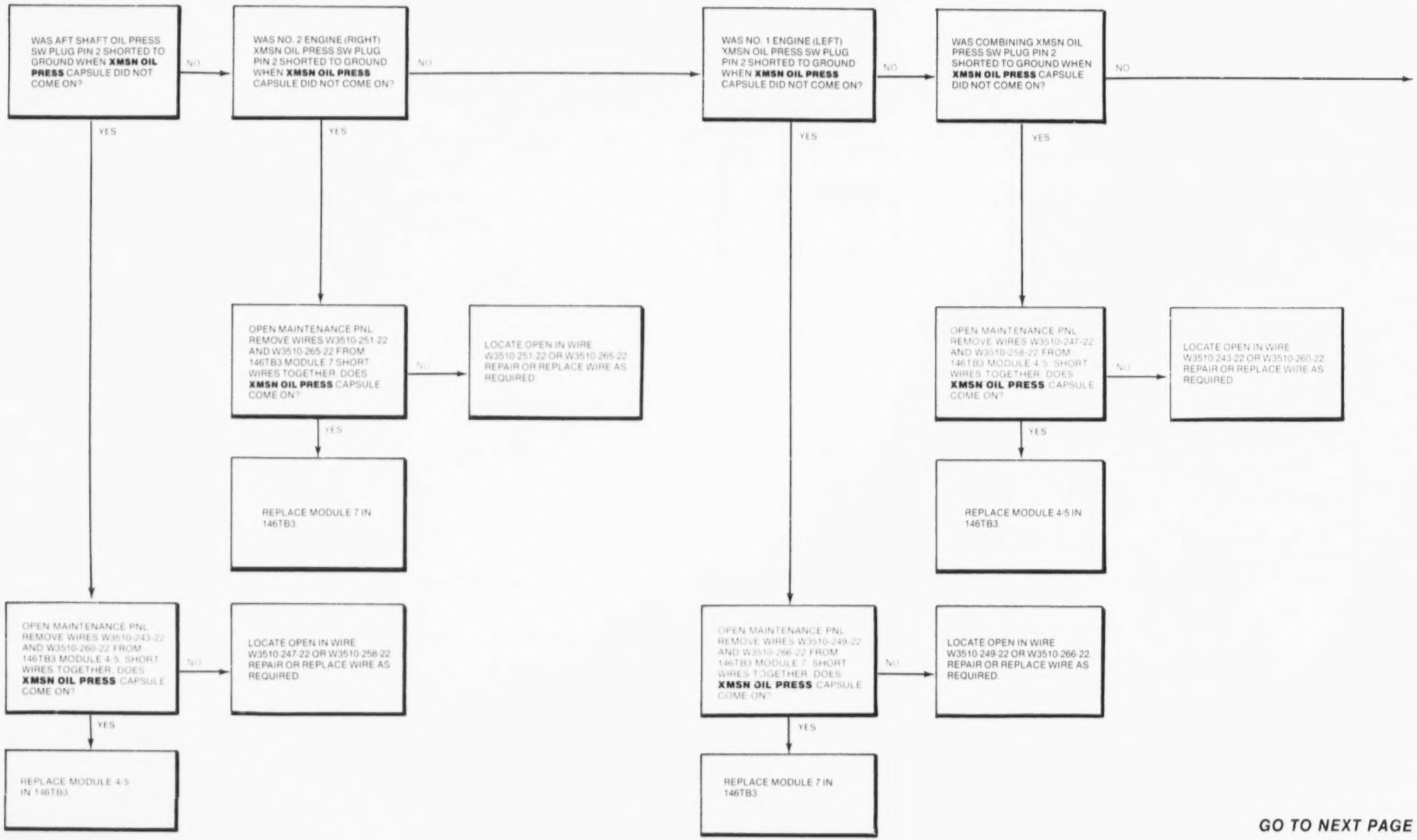
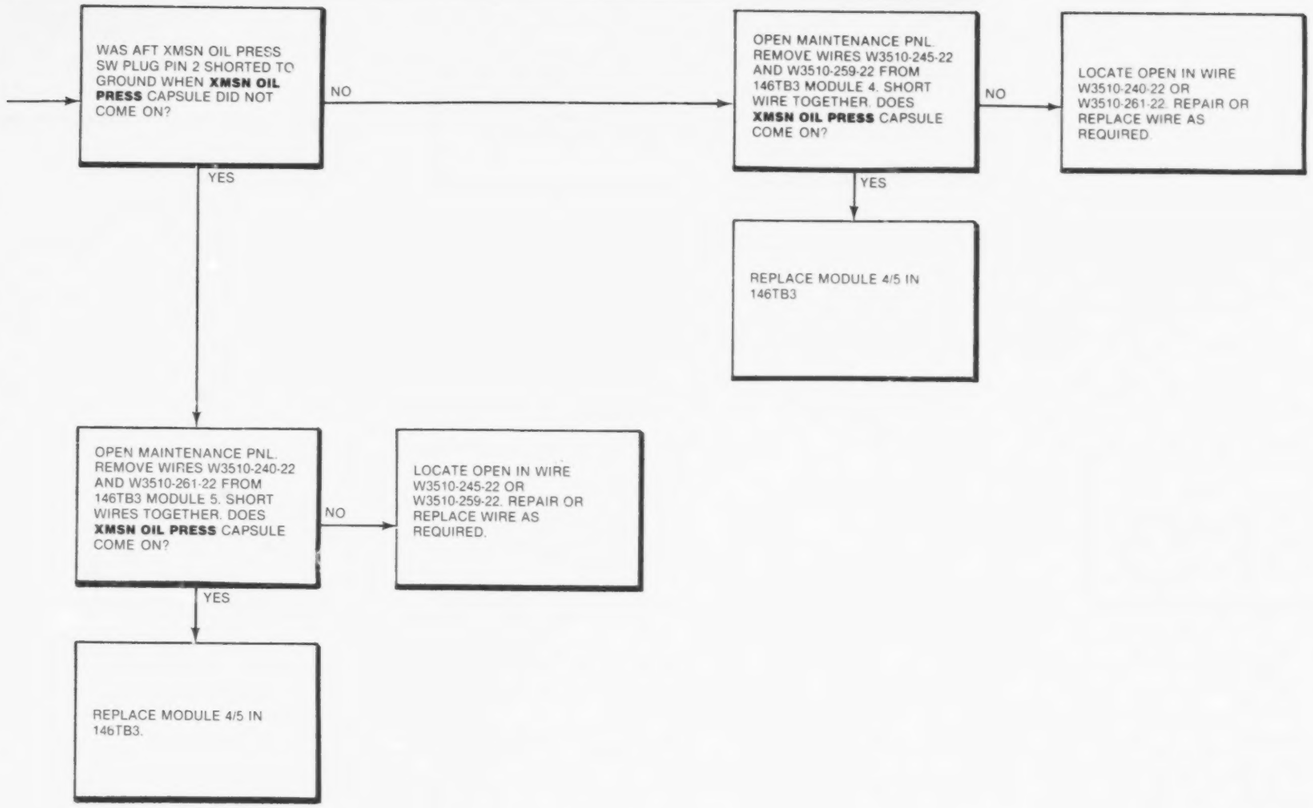
8-9.14 XMSN OIL PRESS CAPSULE DOES NOT COME ON DURING TEST (Continued)


WAS AFT SHAFT OIL PRESS SW PLUG PIN 2 SHORTED TO GROUND WHEN **XMSN OIL PRESS** CAPSULE DID NOT COME ON?
NO
YES
WAS NO. 2 ENGINE (RIGHT) XMSN OIL PRESS SW PLUG PIN 2 SHORTED TO GROUND WHEN **XMSN OIL PRESS** CAPSULE DID NOT COME ON?
NO
YES
OPEN MAINTENANCE PNL. REMOVE WIRES W3510-251-22 AND W3510-265-22 FROM 146TB3 MODULE 7 SHORT WIRES TOGETHER. DOES **XMSN OIL PRESS** CAPSULE COME ON?
NO
LOCATE OPEN IN WIRE W3510-251-22 OR W3510-265-22. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE MODULE 7 IN 146TB3.
WAS NO. 1 ENGINE (LEFT) XMSN OIL PRESS SW PLUG PIN 2 SHORTED TO GROUND WHEN **XMSN OIL PRESS** CAPSULE DID NOT COME ON?
NO
YES
OPEN MAINTENANCE PNL. REMOVE WIRES W3510-249-22 AND W3510-266-22 FROM 146TB3 MODULE 7 SHORT WIRES TOGETHER. DOES **XMSN OIL PRESS** CAPSULE COME ON?
NO
LOCATE OPEN IN WIRE W3510-249-22 OR W3510-266-22. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE MODULE 7 IN 146TB3.
WAS COMBINING XMSN OIL PRESS SW PLUG PIN 2 SHORTED TO GROUND WHEN **XMSN OIL PRESS** CAPSULE DID NOT COME ON?
NO
YES
OPEN MAINTENANCE PNL. REMOVE WIRES W3510-247-22 AND W3510-258-22 FROM 146TB3 MODULE 4/5 SHORT WIRES TOGETHER. DOES **XMSN OIL PRESS** CAPSULE COME ON?
NO
LOCATE OPEN IN WIRE W3510-247-22 OR W3510-258-22. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE MODULE 4/5 IN 146TB3.
OPEN MAINTENANCE PNL. REMOVE WIRES W3510-243-22 AND W3510-260-22 FROM 146TB3 MODULE 4/5 SHORT WIRES TOGETHER. DOES **XMSN OIL PRESS** CAPSULE COME ON?
NO
LOCATE OPEN IN WIRE W3510-243-22 OR W3510-260-22. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE MODULE 4/5 IN 146TB3.

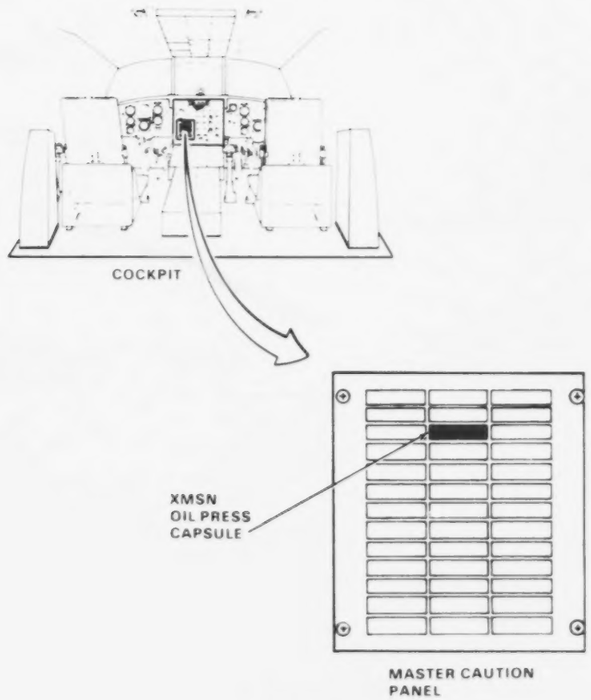
GO TO NEXT PAGE

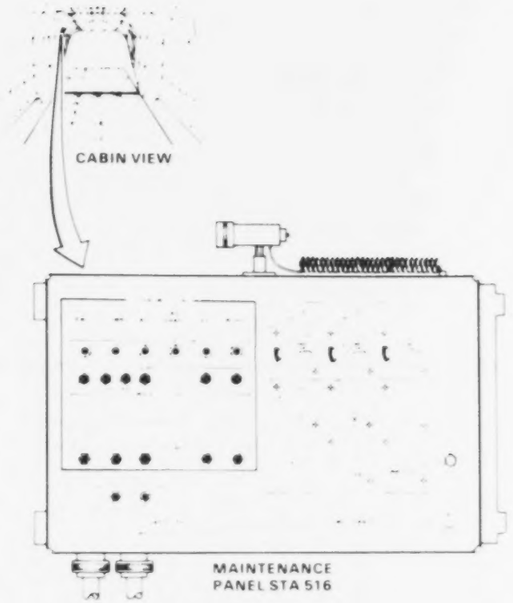
8-9.14 XMSN OIL PRESS CAPSULE DOES NOT COME ON DURING TEST (Continued)

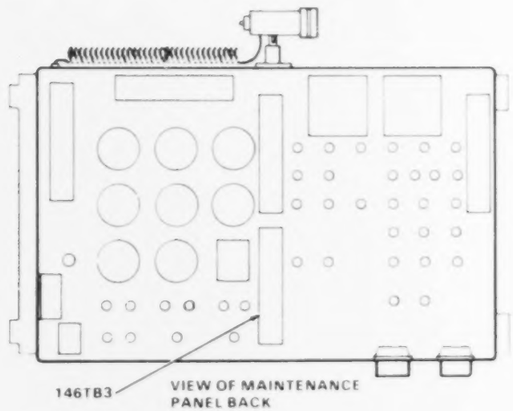

WAS AFT XMSN OIL PRESS SW PLUG PIN 2 SHORTED TO GROUND WHEN **XMSN OIL PRESS** CAPSULE DID NOT COME ON?
NO
YES
OPEN MAINTENANCE PNL. REMOVE WIRES W3510-245-22 AND W3510-259-22 FROM 146TB3 MODULE 4. SHORT WIRE TOGETHER. DOES **XMSN OIL PRESS** CAPSULE COME ON?
NO
YES
LOCATE OPEN IN WIRE W3510-240-22 OR W3510-261-22. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE MODULE 4/5 IN 146TB3
OPEN MAINTENANCE PNL. REMOVE WIRES W3510-240-22 AND W3510-261-22 FROM 146TB3 MODULE 5. SHORT WIRES TOGETHER. DOES **XMSN OIL PRESS** CAPSULE COME ON?
NO
YES
LOCATE OPEN IN WIRE W3510-245-22 OR W3510-259-22. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE MODULE 4/5 IN 146TB3.

GO TO NEXT PAGE

8-9.14 XMSN OIL PRESS CAPSULE DOES NOT COME ON DURING TEST (Continued)







END OF TASK

8-9.15 FWD, COMB, AFT, AFT SHAFT, LEFT, OR RIGHT TRANSMISSION MAIN OIL PRESS LIGHT DOES NOT COME ON WHEN PRESSED.

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

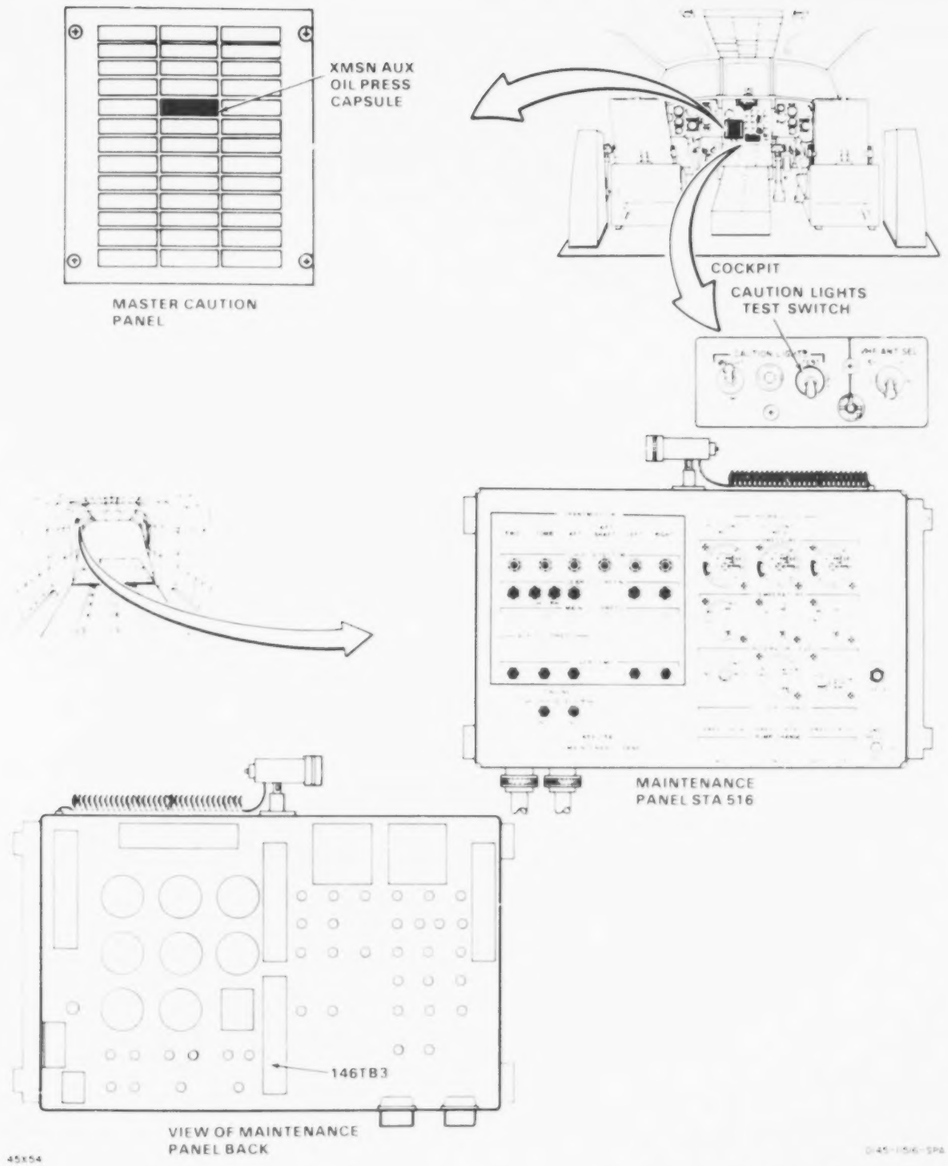
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



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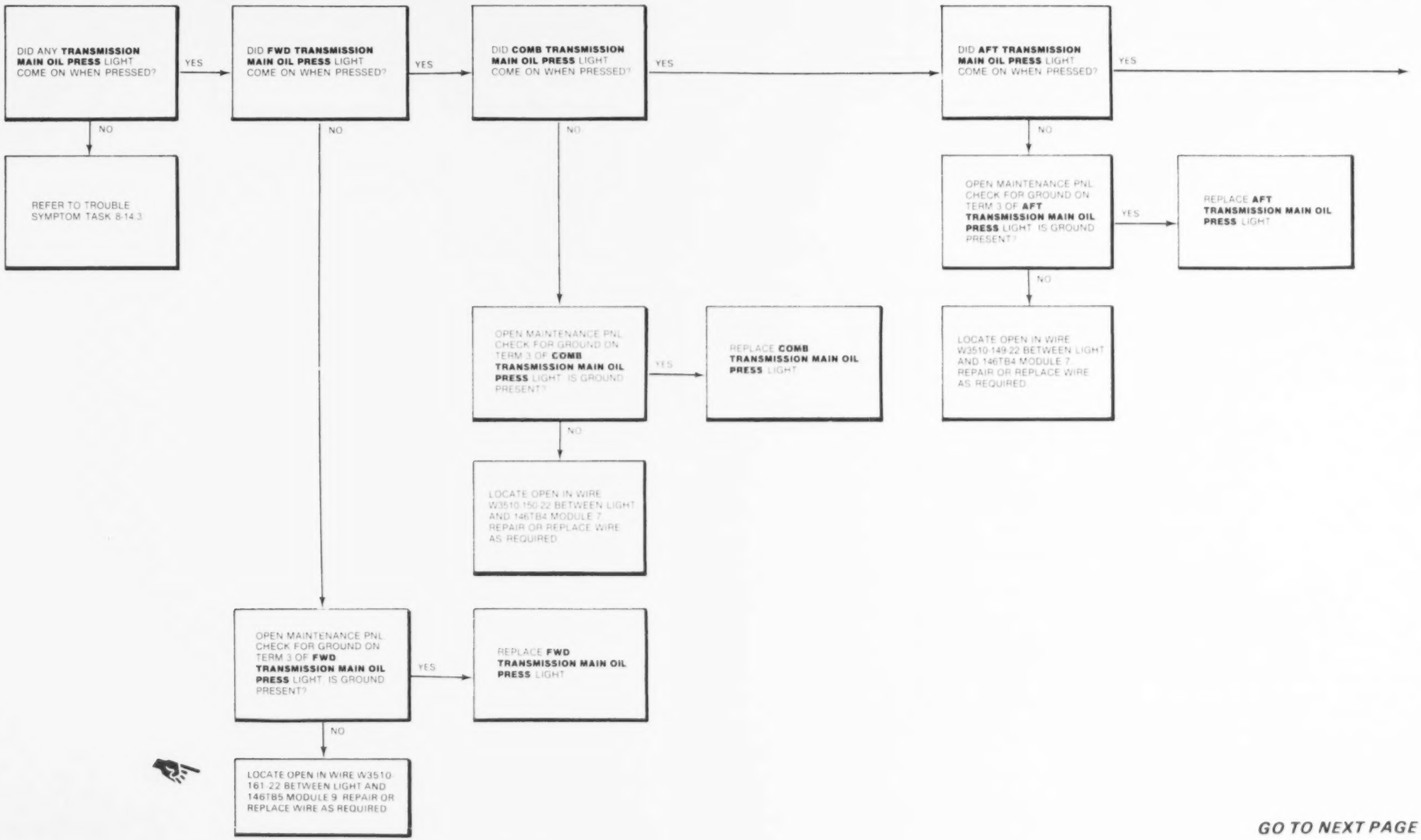
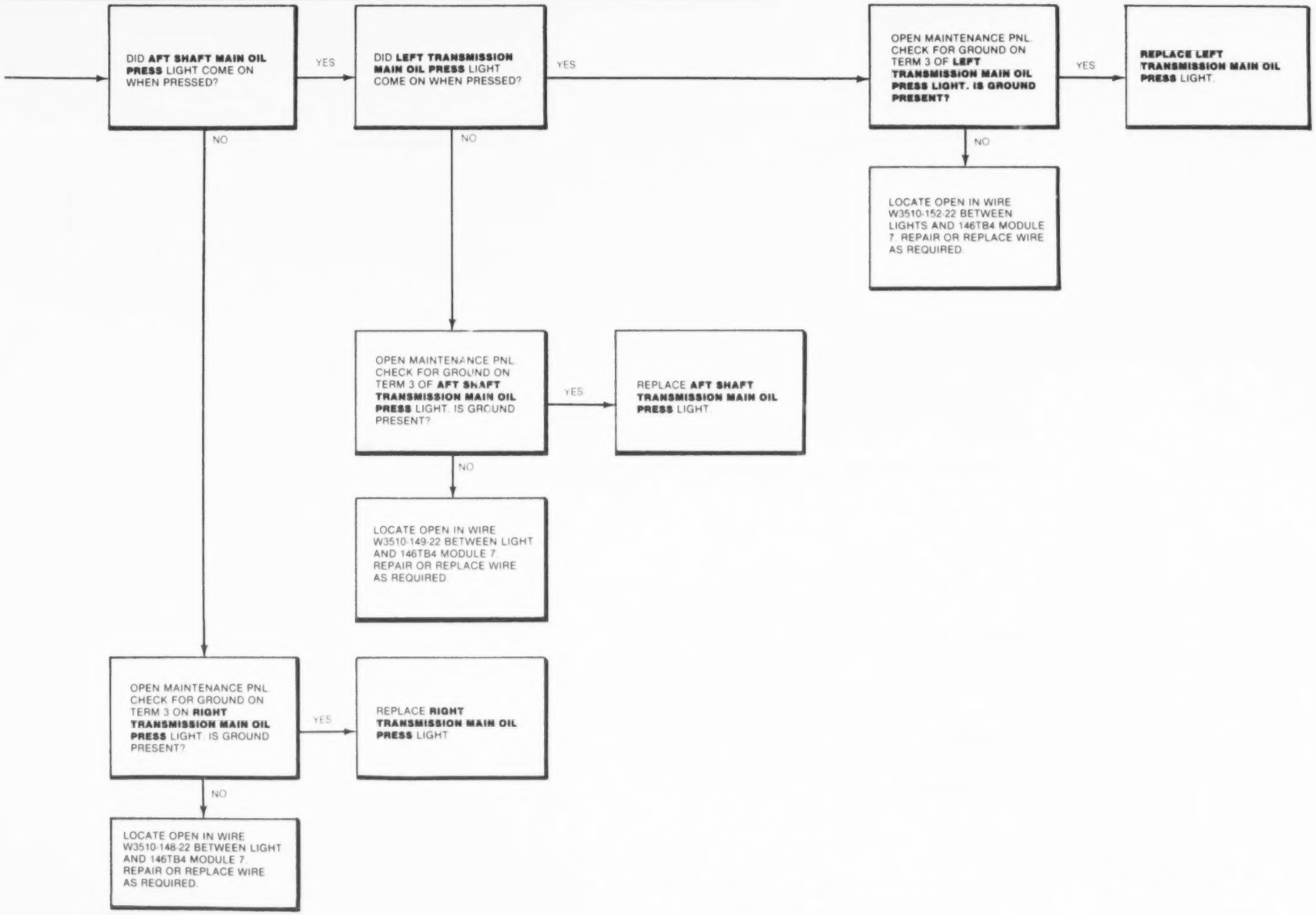
8-9.15 FWD, COMB, AFT, AFT SHAFT, LEFT, OR RIGHT TRANSMISSION MAIN OIL PRESS LIGHT DOES NOT COME ON WHEN PRESSED (Continued)


DID ANY **TRANSMISSION MAIN OIL PRESS** LIGHT COME ON WHEN PRESSED?
YES
DID **FWD TRANSMISSION MAIN OIL PRESS** LIGHT COME ON WHEN PRESSED?
YES
DID **COMB TRANSMISSION MAIN OIL PRESS** LIGHT COME ON WHEN PRESSED?
YES
DID **AFT TRANSMISSION MAIN OIL PRESS** LIGHT COME ON WHEN PRESSED?
YES
NO
REFER TO TROUBLE SYMPTOM TASK 8-14.3
NO
NO
NO
OPEN MAINTENANCE PNL CHECK FOR GROUND ON TERM 3 OF **AFT TRANSMISSION MAIN OIL PRESS** LIGHT. IS GROUND PRESENT?
YES
REPLACE **AFT TRANSMISSION MAIN OIL PRESS** LIGHT
NO
OPEN MAINTENANCE PNL CHECK FOR GROUND ON TERM 3 OF **COMB TRANSMISSION MAIN OIL PRESS** LIGHT. IS GROUND PRESENT?
YES
REPLACE **COMB TRANSMISSION MAIN OIL PRESS** LIGHT
NO
LOCATE OPEN IN WIRE W3510-149-22 BETWEEN LIGHT AND 146TB4 MODULE 7. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE OPEN IN WIRE W3510-150-22 BETWEEN LIGHT AND 146TB4 MODULE 7. REPAIR OR REPLACE WIRE AS REQUIRED
OPEN MAINTENANCE PNL CHECK FOR GROUND ON TERM 3 OF **FWD TRANSMISSION MAIN OIL PRESS** LIGHT. IS GROUND PRESENT?
YES
REPLACE **FWD TRANSMISSION MAIN OIL PRESS** LIGHT
NO
LOCATE OPEN IN WIRE W3510-161-22 BETWEEN LIGHT AND 146TB5 MODULE 9. REPAIR OR REPLACE WIRE AS REQUIRED

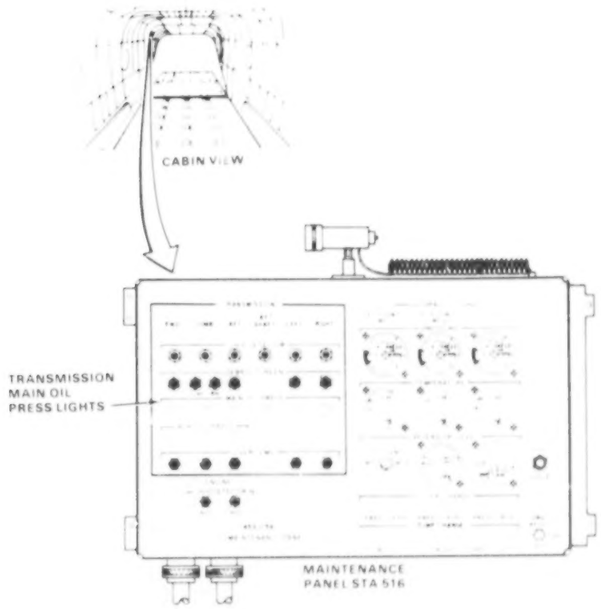
GO TO NEXT PAGE

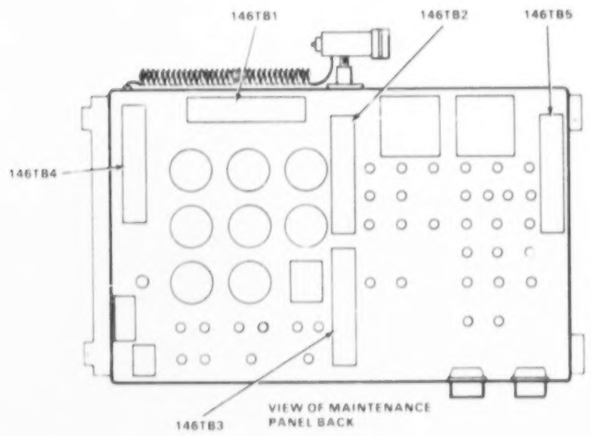
8-9.15 FWD, COMB, AFT, AFT SHAFT, LEFT, OR RIGHT TRANSMISSION MAIN OIL PRESS LIGHT DOES NOT COME ON WHEN PRESSED (Continued)


DID **AFT SHAFT MAIN OIL PRESS** LIGHT COME ON WHEN PRESSED?
YES
DID **LEFT TRANSMISSION MAIN OIL PRESS** LIGHT COME ON WHEN PRESSED?
YES
OPEN MAINTENANCE PNL. CHECK FOR GROUND ON TERM 3 OF **LEFT TRANSMISSION MAIN OIL PRESS LIGHT. IS GROUND PRESENT?**
YES
REPLACE LEFT TRANSMISSION MAIN OIL PRESS LIGHT.
NO
LOCATE OPEN IN WIRE W3510-152-22 BETWEEN LIGHTS AND 146TB4 MODULE 7. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
OPEN MAINTENANCE PNL. CHECK FOR GROUND ON TERM 3 OF **AFT SHAFT TRANSMISSION MAIN OIL PRESS** LIGHT. IS GROUND PRESENT?
YES
REPLACE **AFT SHAFT TRANSMISSION MAIN OIL PRESS** LIGHT.
NO
LOCATE OPEN IN WIRE W3510-149-22 BETWEEN LIGHT AND 146TB4 MODULE 7. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
OPEN MAINTENANCE PNL. CHECK FOR GROUND ON TERM 3 ON **RIGHT TRANSMISSION MAIN OIL PRESS** LIGHT. IS GROUND PRESENT?
YES
REPLACE **RIGHT TRANSMISSION MAIN OIL PRESS** LIGHT.
NO
LOCATE OPEN IN WIRE W3510-148-22 BETWEEN LIGHT AND 146TB4 MODULE 7. REPAIR OR REPLACE WIRE AS REQUIRED.

GO TO NEXT PAGE

8-9.15 FWD, COMB, AFT, AFT SHAFT, LEFT, OR RIGHT TRANSMISSION MAIN OIL PRESS LIGHT DOES NOT COME ON WHEN PRESSED (Continued)





45 x 54

END OF TASK

8-9.16 XMSN OIL PRESS CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

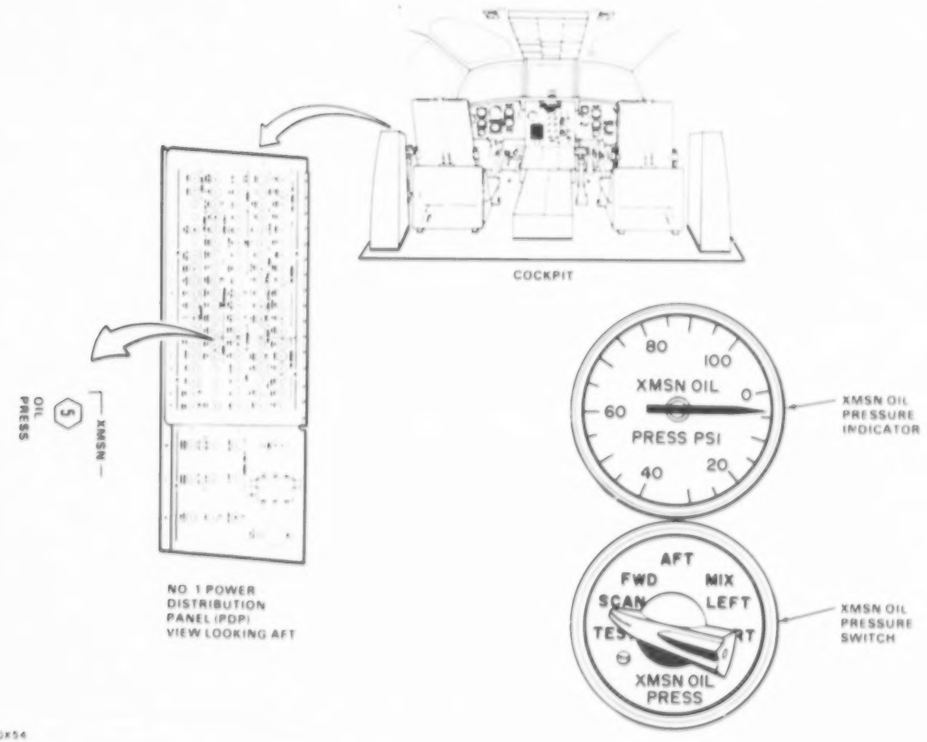
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

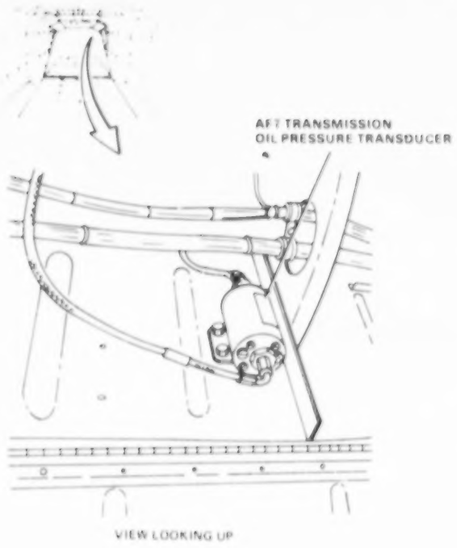
Materials
None

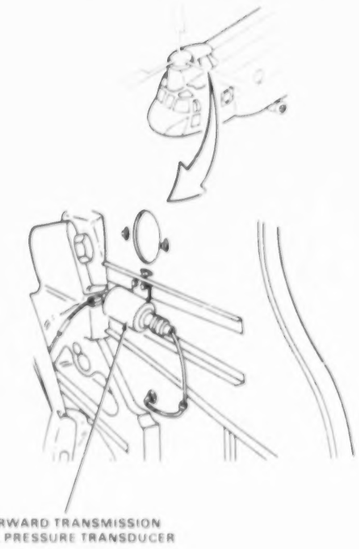
Personnel Required:
68F20 Aircraft Electrician
68F20 Aircraft Electrician

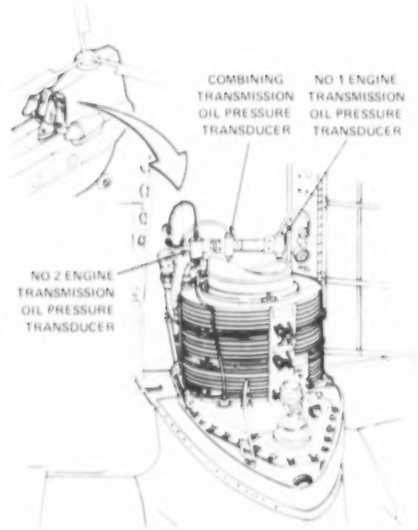
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off








COMBINING TRANSMISSION OIL PRESSURE TRANSDUCER
NO 1 ENGINE TRANSMISSION OIL PRESSURE TRANSDUCER
NO 2 ENGINE TRANSMISSION OIL PRESSURE TRANSDUCER

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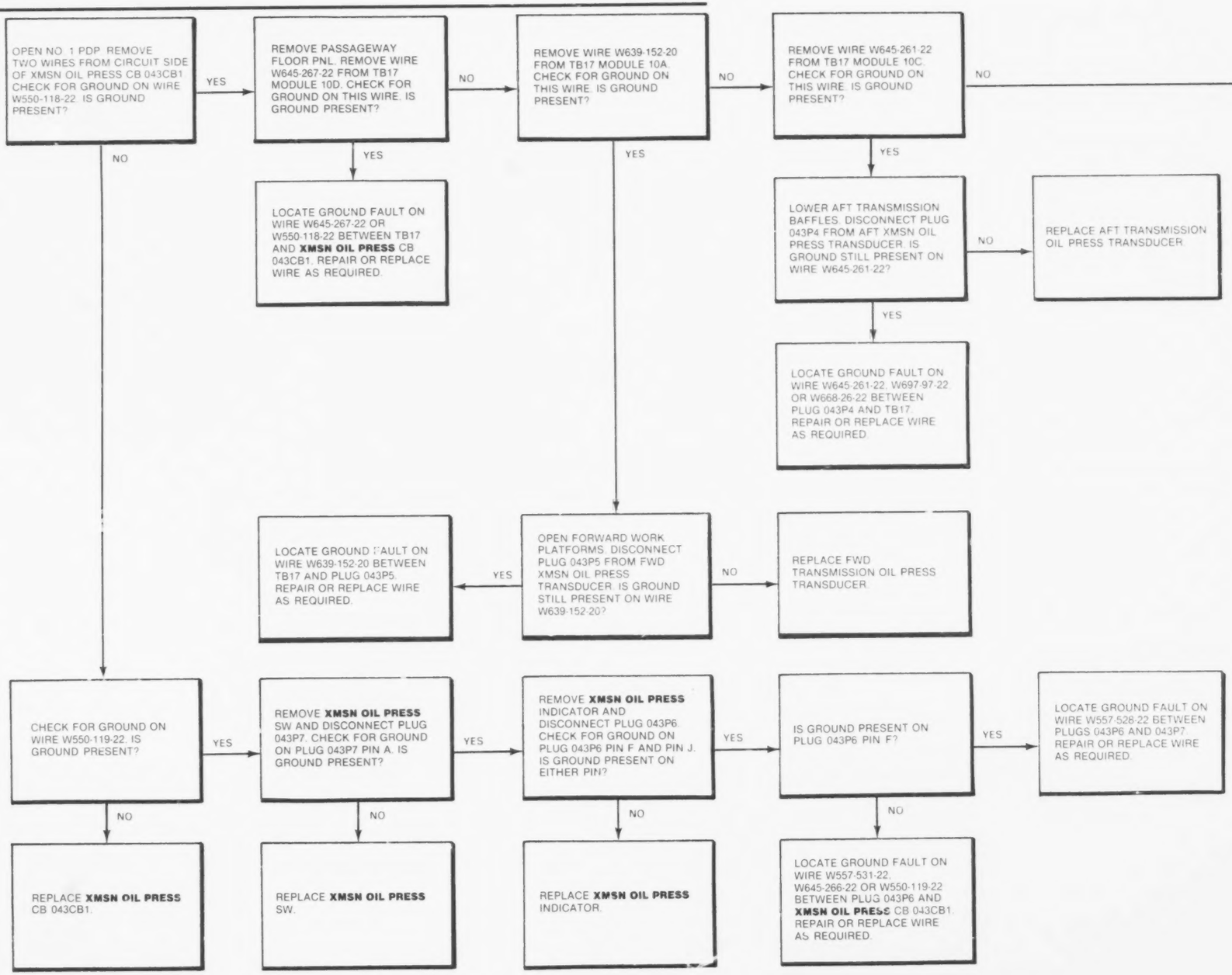
8-9.16 XMSN OIL PRESS CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)


OPEN NO. 1 PDP. REMOVE TWO WIRES FROM CIRCUIT SIDE OF XMSN OIL PRESS CB 043CB1. CHECK FOR GROUND ON WIRE W550-118-22. IS GROUND PRESENT?
YES
REMOVE PASSAGEWAY FLOOR PNL. REMOVE WIRE W645-267-22 FROM TB17 MODULE 10D. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
REMOVE WIRE W639-152-20 FROM TB17 MODULE 10A. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
REMOVE WIRE W645-261-22 FROM TB17 MODULE 10C. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
YES
LOCATE GROUND FAULT ON WIRE W645-267-22 OR W550-118-22 BETWEEN TB17 AND XMSN OIL PRESS CB 043CB1. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOWER AFT TRANSMISSION BAFFLES. DISCONNECT PLUG 043P4 FROM AFT XMSN OIL PRESS TRANSDUCER. IS GROUND STILL PRESENT ON WIRE W645-261-22?
NO
REPLACE AFT TRANSMISSION OIL PRESS TRANSDUCER.
YES
LOCATE GROUND FAULT ON WIRE W645-261-22, W697-97-22 OR W668-26-22 BETWEEN PLUG 043P4 AND TB17. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W639-152-20 BETWEEN TB17 AND PLUG 043P5. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
OPEN FORWARD WORK PLATFORMS. DISCONNECT PLUG 043P5 FROM FWD XMSN OIL PRESS TRANSDUCER. IS GROUND STILL PRESENT ON WIRE W639-152-20?
NO
REPLACE FWD TRANSMISSION OIL PRESS TRANSDUCER.
NO
CHECK FOR GROUND ON WIRE W550-119-22. IS GROUND PRESENT?
YES
REMOVE XMSN OIL PRESS SW AND DISCONNECT PLUG 043P7. CHECK FOR GROUND ON PLUG 043P7 PIN A. IS GROUND PRESENT?
YES
REMOVE XMSN OIL PRESS INDICATOR AND DISCONNECT PLUG 043P6. CHECK FOR GROUND ON PLUG 043P6 PIN F AND PIN J. IS GROUND PRESENT ON EITHER PIN?
YES
IS GROUND PRESENT ON PLUG 043P6 PIN F?
YES
LOCATE GROUND FAULT ON WIRE W557-528-22 BETWEEN PLUGS 043P6 AND 043P7. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE XMSN OIL PRESS CB 043CB1.
NO
REPLACE XMSN OIL PRESS SW.
NO
REPLACE XMSN OIL PRESS INDICATOR.
NO
LOCATE GROUND FAULT ON WIRE W557-531-22, W645-266-22 OR W550-119-22 BETWEEN PLUG 043P6 AND XMSN OIL PRESS CB 043CB1. REPAIR OR REPLACE WIRE AS REQUIRED.

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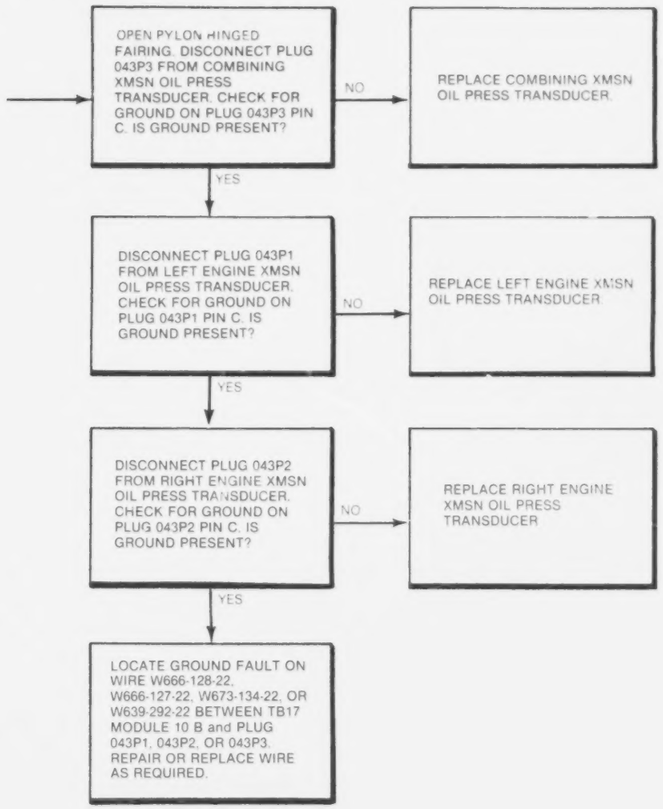
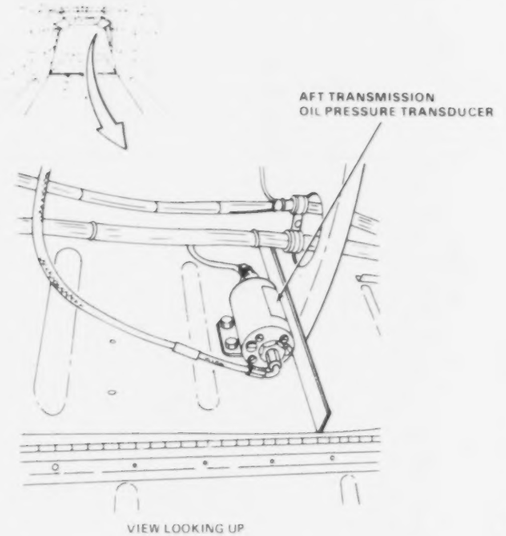
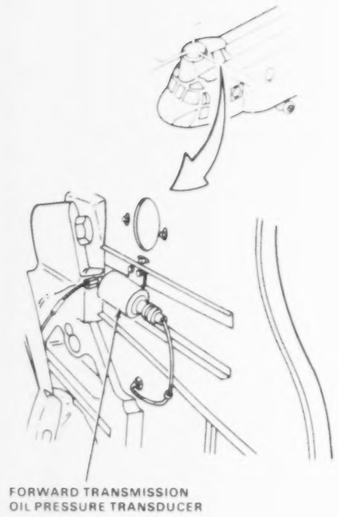
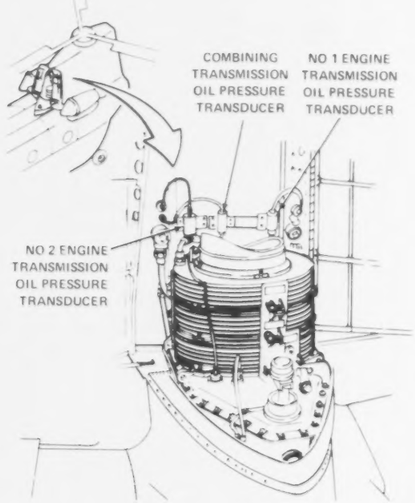
8-9.16 XMSN OIL PRESS CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)


OPEN PYLON HINGED FAIRING. DISCONNECT PLUG 043P3 FROM COMBINING XMSN OIL PRESS TRANSDUCER. CHECK FOR GROUND ON PLUG 043P3 PIN C. IS GROUND PRESENT?
NO
REPLACE COMBINING XMSN OIL PRESS TRANSDUCER.
YES
DISCONNECT PLUG 043P1 FROM LEFT ENGINE XMSN OIL PRESS TRANSDUCER. CHECK FOR GROUND ON PLUG 043P1 PIN C. IS GROUND PRESENT?
NO
REPLACE LEFT ENGINE XMSN OIL PRESS TRANSDUCER.
YES
DISCONNECT PLUG 043P2 FROM RIGHT ENGINE XMSN OIL PRESS TRANSDUCER. CHECK FOR GROUND ON PLUG 043P2 PIN C. IS GROUND PRESENT?
NO
REPLACE RIGHT ENGINE XMSN OIL PRESS TRANSDUCER
YES
LOCATE GROUND FAULT ON WIRE W666-128-22, W666-127-22, W673-134-22, OR W639-292-22 BETWEEN TB17 MODULE 10 B and PLUG 043P1, 043P2, OR 043P3. REPAIR OR REPLACE WIRE AS REQUIRED.






COMBINING TRANSMISSION OIL PRESSURE TRANSDUCER
NO 1 ENGINE TRANSMISSION OIL PRESSURE TRANSDUCER
NO 2 ENGINE TRANSMISSION OIL PRESSURE TRANSDUCER

D145-11519-SPA

END OF TASK

8-9.17 XMSN OIL PRESS INDICATOR DOES NOT READ IN NORMAL RANGE WHEN XMSN OIL PRESS SWITCH IS AT SCAN

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

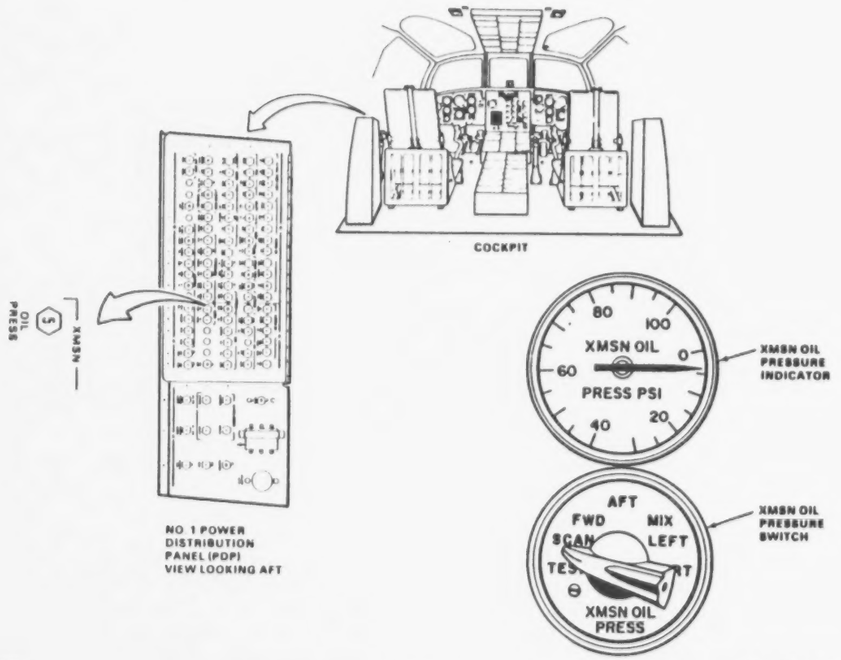
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials
None

Personnel Required:
68F20 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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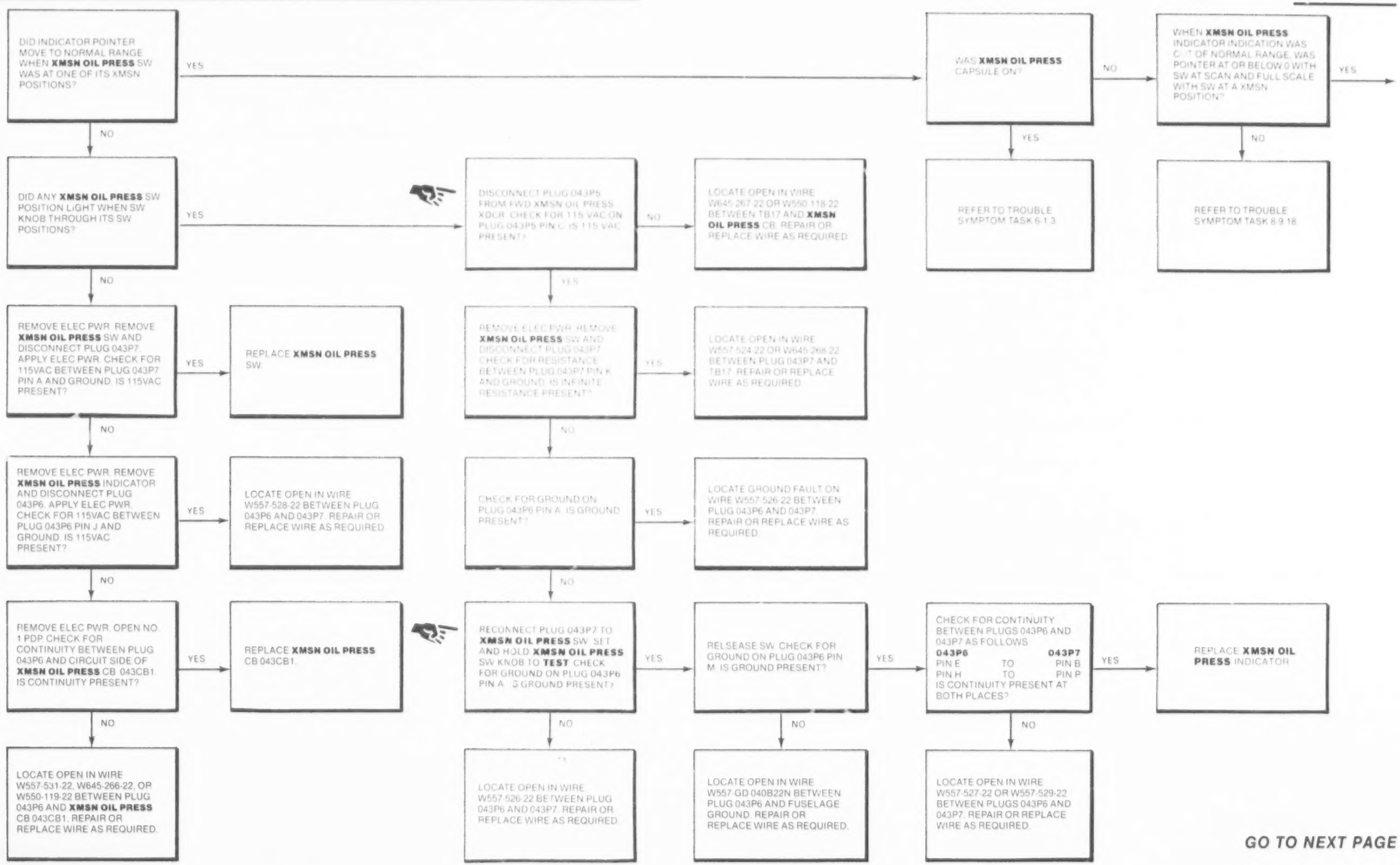
8-9.17 XMSN OIL PRESS INDICATOR DOES NOT READ IN NORMAL RANGE WHEN XMSN OIL PRESS SWITCH IS AT SCAN (Continued)


DID INDICATOR POINTER MOVE TO NORMAL RANGE WHEN **XMSN OIL PRESS** SW WAS AT ONE OF ITS XMSN POSITIONS?
YES
NO
WAS **XMSN OIL PRESS** CAPSULE ON?
NO
YES
WHEN **XMSN OIL PRESS** INDICATOR INDICATION WAS OUT OF NORMAL RANGE, WAS POINTER AT OR BELOW 0 WITH SW AT SCAN AND FULL SCALE WITH SW AT A XMSN POSITION?
YES
NO
REFER TO TROUBLE SYMPTOM TASK 6.1.3.
REFER TO TROUBLE SYMPTOM TASK 8.9.18.
DID ANY **XMSN OIL PRESS** SW POSITION LIGHT WHEN SW KNOB THROUGH ITS SW POSITIONS?
YES
NO
DISCONNECT PLUG 043P5 FROM FWD XMSN OIL PRESS XDCR. CHECK FOR 115 VAC ON PLUG 043P5 PIN C. IS 115 VAC PRESENT?
NO
YES
LOCATE OPEN IN WIRE W645-267-22 OR W550-118-22 BETWEEN TB17 AND **XMSN OIL PRESS** CB. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELEC PWR. REMOVE **XMSN OIL PRESS** SW AND DISCONNECT PLUG 043P7. APPLY ELEC PWR. CHECK FOR 115VAC BETWEEN PLUG 043P7 PIN A AND GROUND. IS 115VAC PRESENT?
YES
NO
REPLACE **XMSN OIL PRESS** SW.
REMOVE ELEC PWR. REMOVE **XMSN OIL PRESS** SW AND DISCONNECT PLUG 043P7. CHECK FOR RESISTANCE BETWEEN PLUG 043P7 PIN K AND GROUND. IS INFINITE RESISTANCE PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-524-22 OR W645-268-22 BETWEEN PLUG 043P7 AND TB17. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELEC PWR. REMOVE **XMSN OIL PRESS** INDICATOR AND DISCONNECT PLUG 043P6. APPLY ELEC PWR. CHECK FOR 115VAC BETWEEN PLUG 043P6 PIN J AND GROUND. IS 115VAC PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-528-22 BETWEEN PLUG 043P6 AND 043P7. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR GROUND ON PLUG 043P6 PIN A. IS GROUND PRESENT?
YES
NO
LOCATE GROUND FAULT ON WIRE W557-526-22 BETWEEN PLUG 043P6 AND 043P7. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELEC PWR. OPEN NO. 1 PDP. CHECK FOR CONTINUITY BETWEEN PLUG 043P6 AND CIRCUIT SIDE OF **XMSN OIL PRESS** CB 043CB1. IS CONTINUITY PRESENT?
YES
NO
REPLACE **XMSN OIL PRESS** CB 043CB1.
LOCATE OPEN IN WIRE W557-531-22, W645-266-22, OR W550-119-22 BETWEEN PLUG 043P6 AND **XMSN OIL PRESS** CB 043CB1. REPAIR OR REPLACE WIRE AS REQUIRED.
RECONNECT PLUG 043P7 TO **XMSN OIL PRESS** SW. SET AND HOLD **XMSN OIL PRESS** SW KNOB TO **TEST**. CHECK FOR GROUND ON PLUG 043P6 PIN A. (3 GROUND PRESENT)
YES
NO
LOCATE OPEN IN WIRE W557-526-22 BETWEEN PLUG 043P6 AND 043P7. REPAIR OR REPLACE WIRE AS REQUIRED.
RELSEASE SW. CHECK FOR GROUND ON PLUG 043P6 PIN M. IS GROUND PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-GD 040B22N BETWEEN PLUG 043P6 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR CONTINUITY BETWEEN PLUGS 043P6 AND 043P7 AS FOLLOWS:
043P6 043P7
PIN E TO PIN B
PIN H TO PIN P
IS CONTINUITY PRESENT AT BOTH PLACES?
YES
NO
LOCATE OPEN IN WIRE W557-527-22 OR W557-529-22 BETWEEN PLUGS 043P6 AND 043P7. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE **XMSN OIL PRESS** INDICATOR.

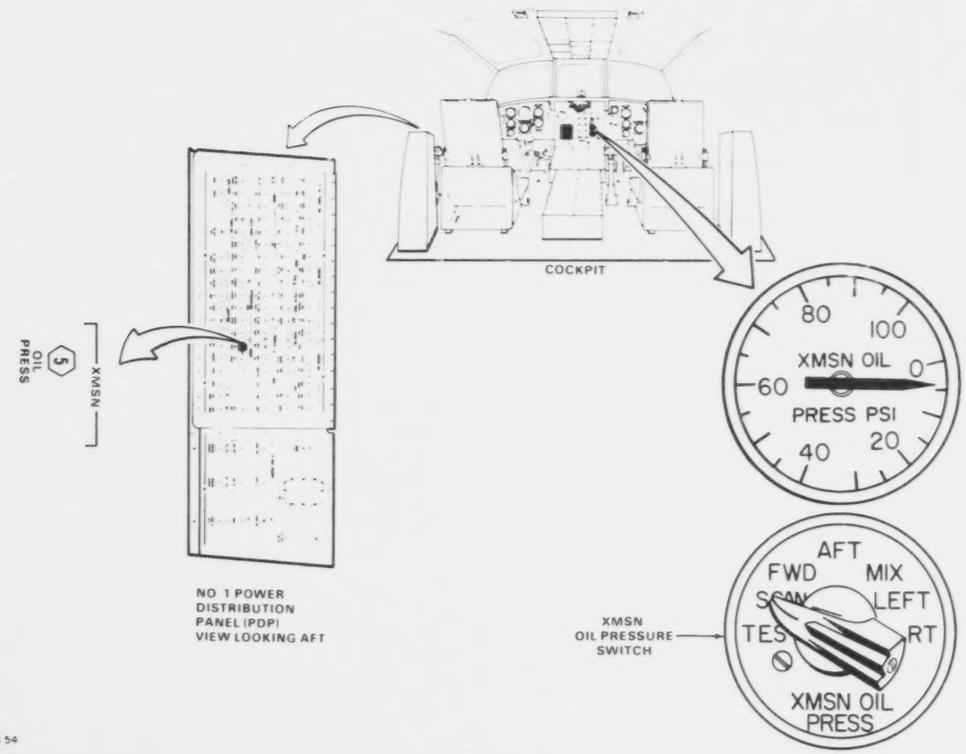
GO TO NEXT PAGE

8-9.17 XMSN OIL PRESS INDICATOR DOES NOT READ IN NORMAL RANGE WHEN XMSN OIL PRESS SWITCH IS AT SCAN

WAS **XMSN OIL PRESS** SW AT **FWD** WHEN 0 OR FULL SCALE INDICATION OCCURRED?
NO
YES
DISCONNECT PLUG 043P5 FROM FWD TRANSMISSION OIL PRESS TRANSDUCER. CHECK FOR 115VAC BETWEEN PLUG 043P5 PIN C AND GROUND. IS 115VAC PRESENT?
NO
LOCATE OPEN IN WIRE W639-152-20 BETWEEN PLUG 043P5 AND TB17. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REMOVE ELEC PWR. CHECK FOR GROUND ON PLUG 043P5 PIN A. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W639-151-20 BETWEEN PLUG 043P5 and TB17. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR GROUND ON PLUG 043P5 PIN B. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT OR WIRE W639-150-20 OR W557-525-22 BETWEEN PLUGS 043P5 AND 043P7. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE **XMSN OIL PRESS** SW AND DISCONNECT PLUG 043P7. CHECK FOR CONTINUITY BETWEEN PLUG 043P7. CHECK FOR CONTINUITY BETWEEN PLUG 043P7 PIN J AND PLUG 043P5 PIN B. IS CONTINUITY PRESENT?
YES
REPLACE FWD TRANSMISSION OIL PRESS TRANSDUCER.
NO
LOCATE OPEN IN WIRE W557-525-22 OR W639-150-20 BETWEEN PLUGS 043P7 AND 043P5. REPAIR OR REPLACE WIRE AS REQUIRED.
WAS **XMSN OIL PRESS** SW AT **MIX** WHEN 0 OR FULL SCALE INDICATION OCCURRED?
NO
YES
DISCONNECT PLUG 043P3 FROM COMB TRANSMISSION OIL PRESS TRANSDUCER. CHECK FOR 115VAC BETWEEN PLUG 043P3 PIN C AND GROUND. IS 115VAC PRESENT?
NO
LOCATE OPEN IN WIRE W666-129-22, W666-127-22, W673-134-22, OR W639-292-22 BETWEEN PLUG 043P3 AND TB17. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REMOVE ELEC PWR. CHECK FRO GROUND PLUG 043P3 PIN A. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W666-130-22, W666-125-22, W673-133-22 OR W639-291-22 BETWEEN PLUG 043P3 AND TB17. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR GROUND ON PLUG 043P3 PIN B. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W666-131-22, W673-135-22, W639-293-22, OR W557-521-22 BETWEEN PLUGS 043P3 AND 043P7. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE **XMSN OIL** PRESS SW AND DISCONNECT PLUG 043P7. CHECK FOR CONTINUITY BETWEEN PLUG 043P7 PIN G AND PLUG 043P3 PIN B. IS CONTINUITY PRESENT?
YES
REPLACE COMBINING TRANSMISSION OIL PRESS TRANSDUCER.
NO
LOCATE OPEN IN WIRE W666-131-22, W673-135-22, W639-293-22, OR W557-521-22 BETWEEN PLUGS 043P3 AND 043P7. REPAIR OR REPLACE WIRE AS REQUIRED.
WAS **XMSN OIL PRESS** SW AT **AFT** WHEN 0 OR FULL SCALE INDICATION OCCURRED?
NO
YES
DISCONNECT PLUG 043P4 FROM AFT TRANSMISSION OIL PRESS TRANSDUCER. CHECK FOR 115VAC BETWEEN PLUG 043P4 PIN C AND GROUND. IS 115VAC PRESENT?
NO
LOCATE OPEN IN WIRE W668-26-22, W697-97-22, OR W645-261-22 BETWEEN PLUG 043P4 AND TB17. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REMOVE ELEC PWR. CHECK FOR GROUND ON PLUG 043P4 PIN A. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W668-27-22, W697-98-22, OR W639-262-22 BETWEEN PLUG 043P4 AND TB17. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR GROUND ON PLUG 043P4 PIN B. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W668-25-22, W697-96-22, W645-260-22, OR W557-523-22 BETWEEN PLUGS 043P4 AND 043P7. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE **XMSN OIL PRESS** SW AND DISCONNECT PLUG 043P7. CHECK FOR CONTINUITY BETWEEN PLUG 043P7 PIN H AND PLUG 043P4 PIN B. IS CONTINUITY PRESENT?
YES
REPLACE AFT TRANSMISSION OIL PRESS TRANSDUCER.
NO
LOCATE OPEN IN WIRE W668-25-22, W697-96-22, W645-260-22, OR W557-523-22 BETWEEN PLUGS 043P4 AND 043P7. REPAIR OR REPLACE WIRE AS REQUIRED.

GO TO NEXT PAGE

8-9.17 XMSN OIL PRESS INDICATOR DOES NOT READ IN NORMAL RANGE WHEN XMSN OIL PRESS SWITCH IS AT SCAN (Continued)



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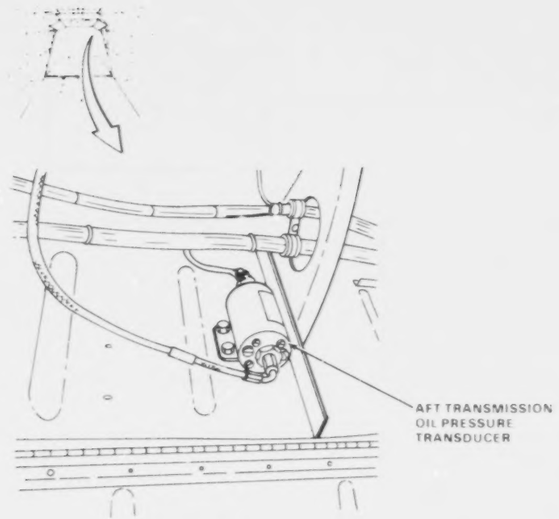

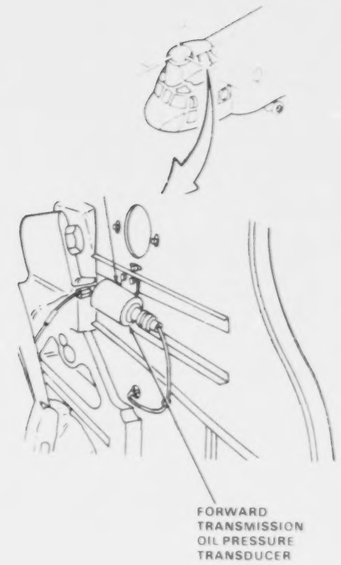

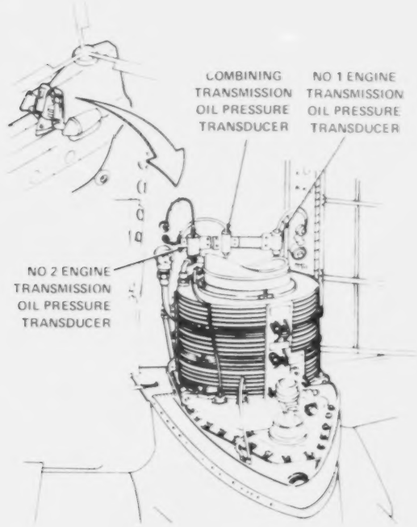
COMBINING TRANSMISSION OIL PRESSURE TRANSDUCER
NO 1 ENGINE TRANSMISSION OIL PRESSURE TRANSDUCER
NO 2 ENGINE TRANSMISSION OIL PRESSURE TRANSDUCER

D145-1521-SP4

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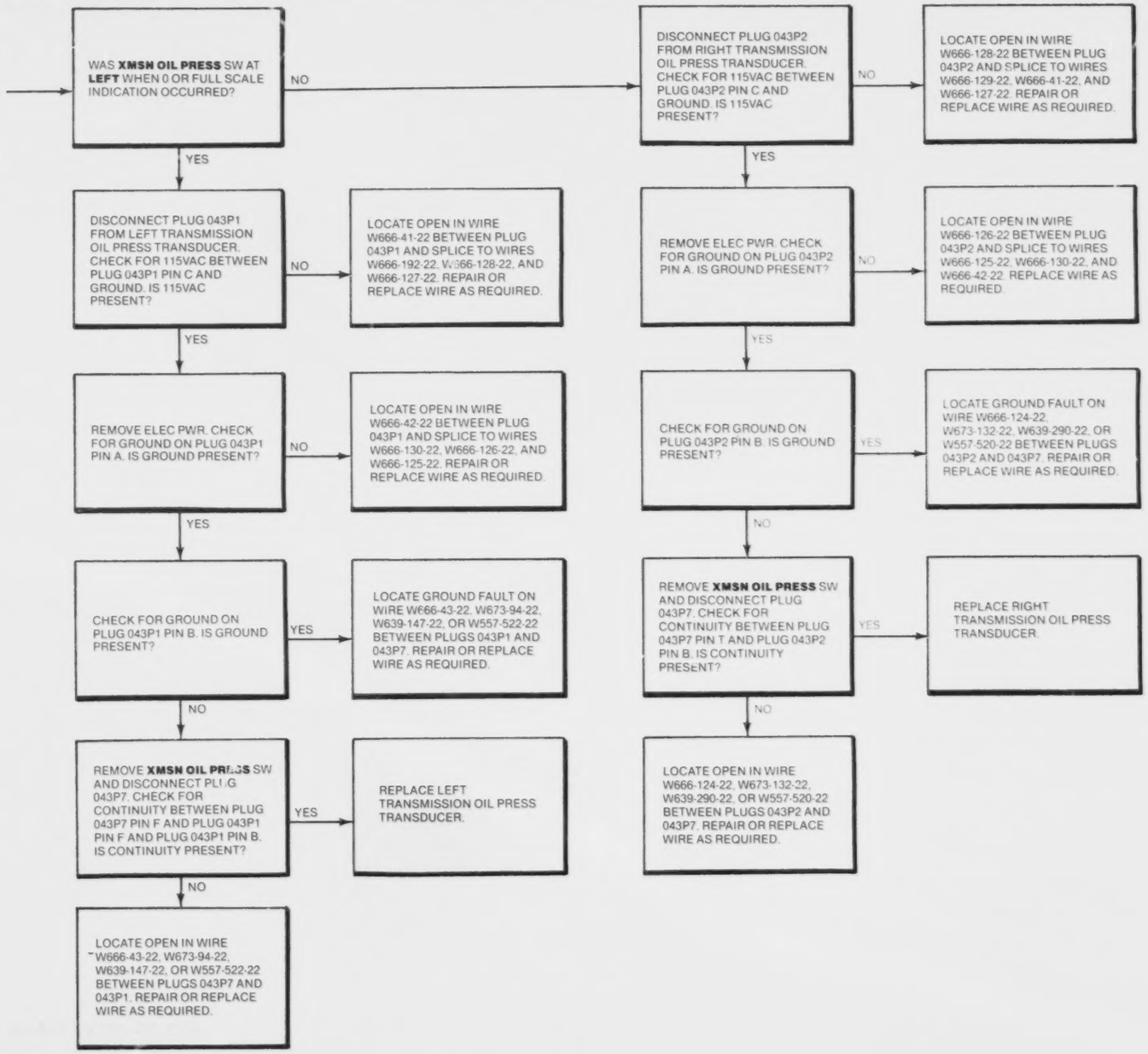
8-9.17 XMSN OIL PRESS INDICATOR DOES NOT READ IN NORMAL RANGE WHEN XMSN OIL PRESS SWITCH IS AT SCAN (Continued)


WAS **XMSN OIL PRESS** SW AT **LEFT** WHEN 0 OR FULL SCALE INDICATION OCCURRED?
NO
YES
DISCONNECT PLUG 043P1 FROM LEFT TRANSMISSION OIL PRESS TRANSDUCER. CHECK FOR 115VAC BETWEEN PLUG 043P1 PIN C AND GROUND. IS 115VAC PRESENT?
NO
LOCATE OPEN IN WIRE W666-41-22 BETWEEN PLUG 043P1 AND SPLICE TO WIRES W666-192-22, W666-128-22, AND W666-127-22. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REMOVE ELEC PWR. CHECK FOR GROUND ON PLUG 043P1 PIN A. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W666-42-22 BETWEEN PLUG 043P1 AND SPLICE TO WIRES W666-130-22, W666-126-22, AND W666-125-22. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR GROUND ON PLUG 043P1 PIN B. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W666-43-22, W673-94-22, W639-147-22, OR W557-522-22 BETWEEN PLUGS 043P1 AND 043P7. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE **XMSN OIL PRESS** SW AND DISCONNECT PLUG 043P7. CHECK FOR CONTINUITY BETWEEN PLUG 043P7 PIN F AND PLUG 043P1 PIN F AND PLUG 043P1 PIN B. IS CONTINUITY PRESENT?
YES
REPLACE LEFT TRANSMISSION OIL PRESS TRANSDUCER.
NO
LOCATE OPEN IN WIRE W666-43-22, W673-94-22, W639-147-22, OR W557-522-22 BETWEEN PLUGS 043P7 AND 043P1. REPAIR OR REPLACE WIRE AS REQUIRED.
DISCONNECT PLUG 043P2 FROM RIGHT TRANSMISSION OIL PRESS TRANSDUCER. CHECK FOR 115VAC BETWEEN PLUG 043P2 PIN C AND GROUND. IS 115VAC PRESENT?
NO
LOCATE OPEN IN WIRE W666-128-22 BETWEEN PLUG 043P2 AND SPLICE TO WIRES W666-129-22, W666-41-22, AND W666-127-22. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REMOVE ELEC PWR. CHECK FOR GROUND ON PLUG 043P2 PIN A. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W666-126-22 BETWEEN PLUG 043P2 AND SPLICE TO WIRES W666-125-22, W666-130-22, AND W666-42-22. REPLACE WIRE AS REQUIRED.
YES
CHECK FOR GROUND ON PLUG 043P2 PIN B. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W666-124-22, W673-132-22, W639-290-22, OR W557-520-22 BETWEEN PLUGS 043P2 AND 043P7. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE **XMSN OIL PRESS** SW AND DISCONNECT PLUG 043P7. CHECK FOR CONTINUITY BETWEEN PLUG 043P7 PIN T AND PLUG 043P2 PIN B. IS CONTINUITY PRESENT?
YES
REPLACE RIGHT TRANSMISSION OIL PRESS TRANSDUCER.
NO
LOCATE OPEN IN WIRE W666-124-22, W673-132-22, W639-290-22, OR W557-520-22 BETWEEN PLUGS 043P2 AND 043P7. REPAIR OR REPLACE WIRE AS REQUIRED.

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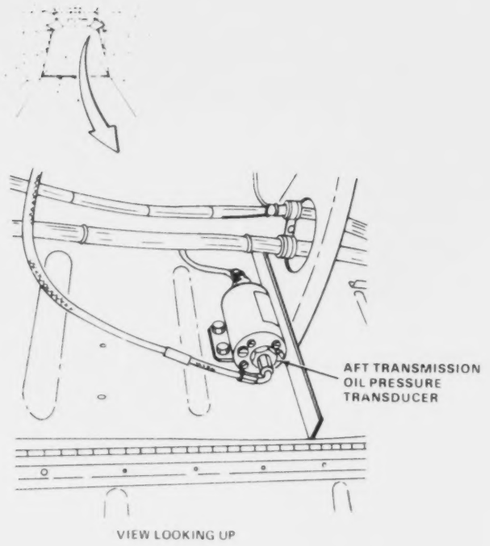
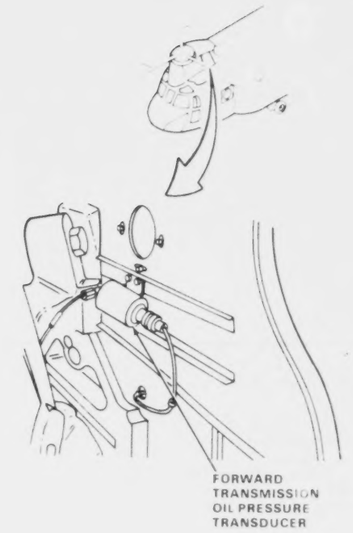
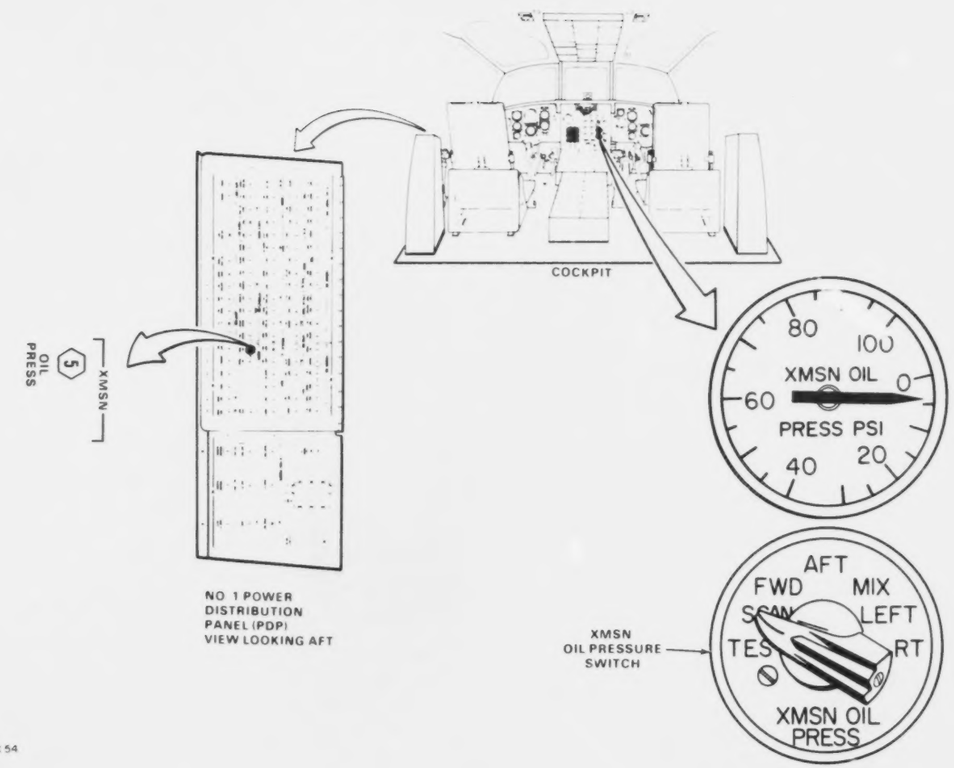
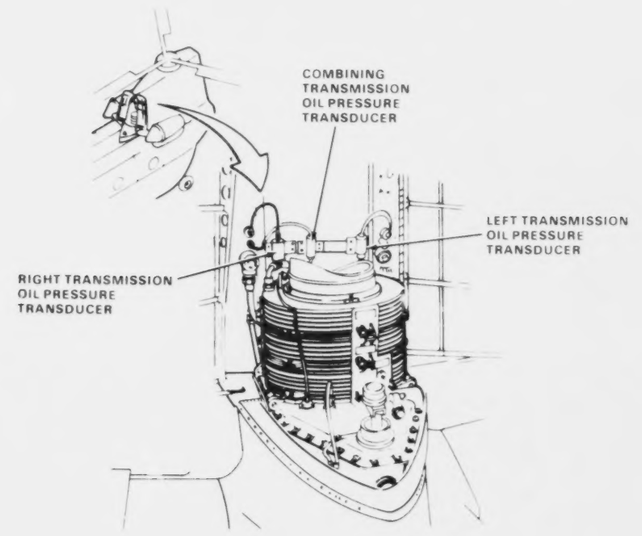
8-9.17 XMSN OIL PRESS INDICATOR DOES NOT READ IN NORMAL RANGE WHEN XMSN OIL PRESS SWITCH IS AT SCAN (Continued)









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DH45-11522-SFA

END OF TASK

8-9.18 XMSN OIL PRESS INDICATOR DOES NOT READ IN NORMAL RANGE FOR ONE XMSN OIL PRESS SWITCH POSITION

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

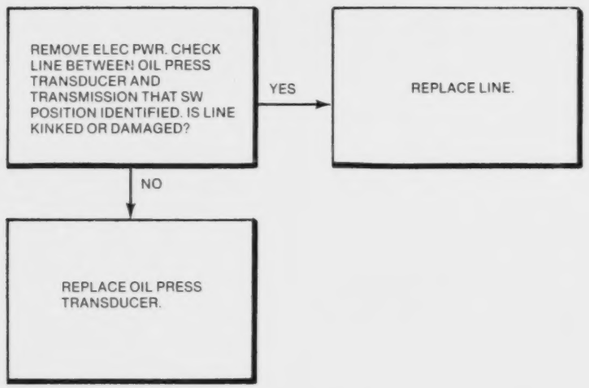
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4692
Multimeter

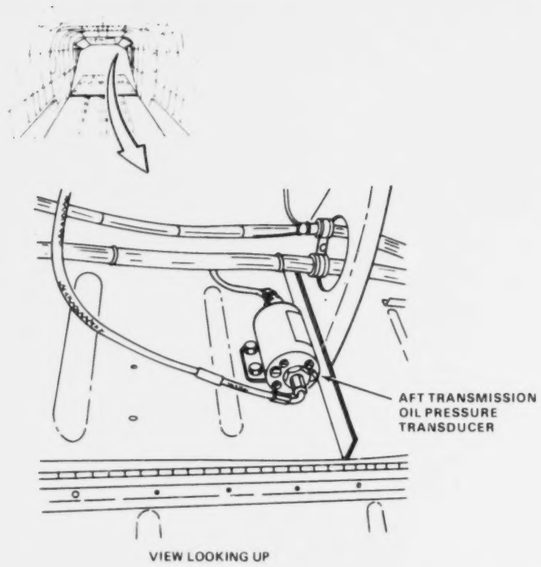
Materials
None

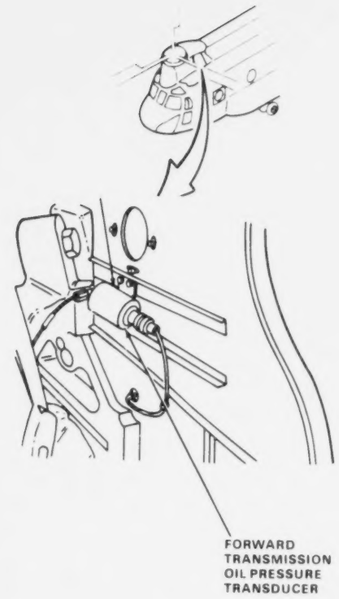
Personnel Required:
67020 Medium Helicopter Repairer

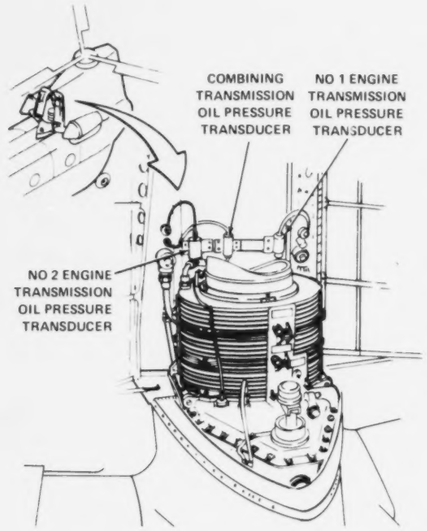
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off


REMOVE ELEC PWR. CHECK LINE BETWEEN OIL PRESS TRANSDUCER AND TRANSMISSION THAT SW POSITION IDENTIFIED. IS LINE KINKED OR DAMAGED?
YES
REPLACE LINE.
NO
REPLACE OIL PRESS TRANSDUCER.






COMBINING TRANSMISSION OIL PRESSURE TRANSDUCER
NO 1 ENGINE TRANSMISSION OIL PRESSURE TRANSDUCER
NO 2 ENGINE TRANSMISSION OIL PRESSURE TRANSDUCER

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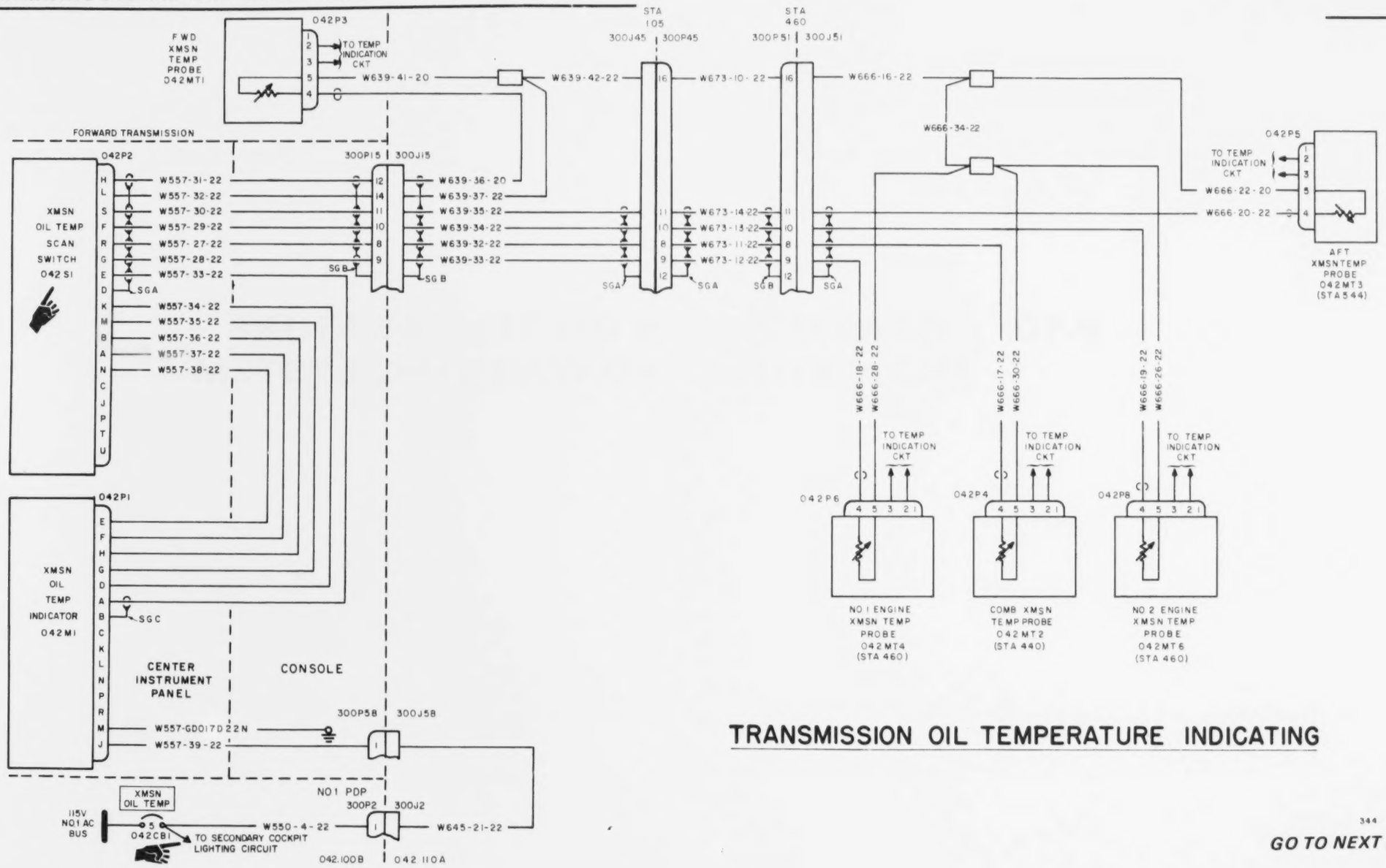
D145-11523-SPA

END OF TASK

8-10 TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM

8-10 TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM

8-10.1 TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM WIRING DIAGRAM



TRANSMISSION OIL TEMPERATURE INDICATING

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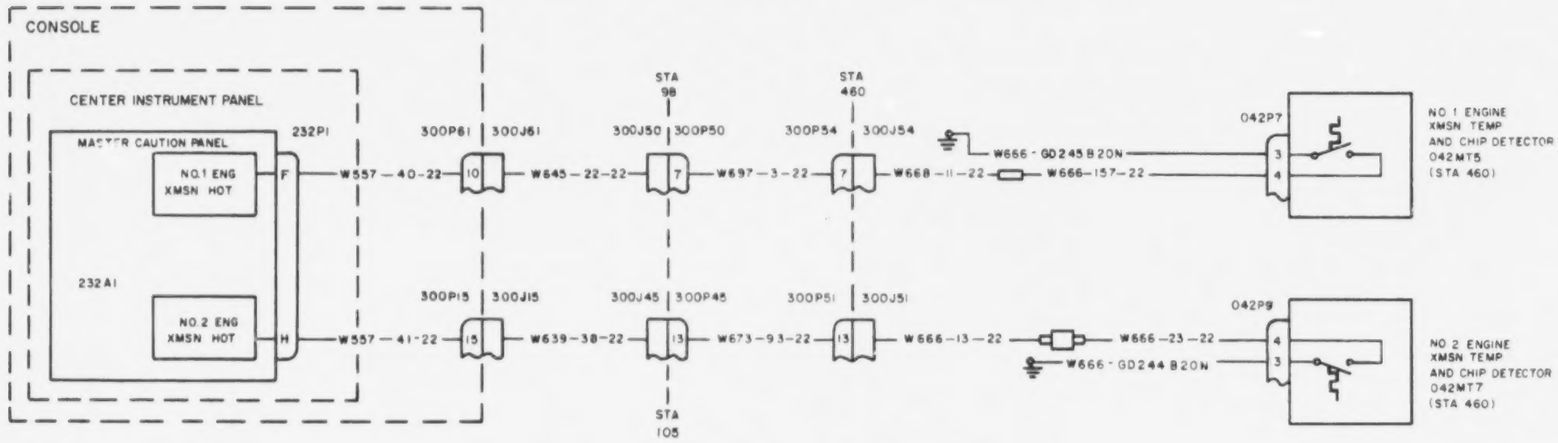
8-10.1 TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM WIRING DIAGRAM (Continued)



ENGINE TRANSMISSION OIL TEMPERATURE WARNING

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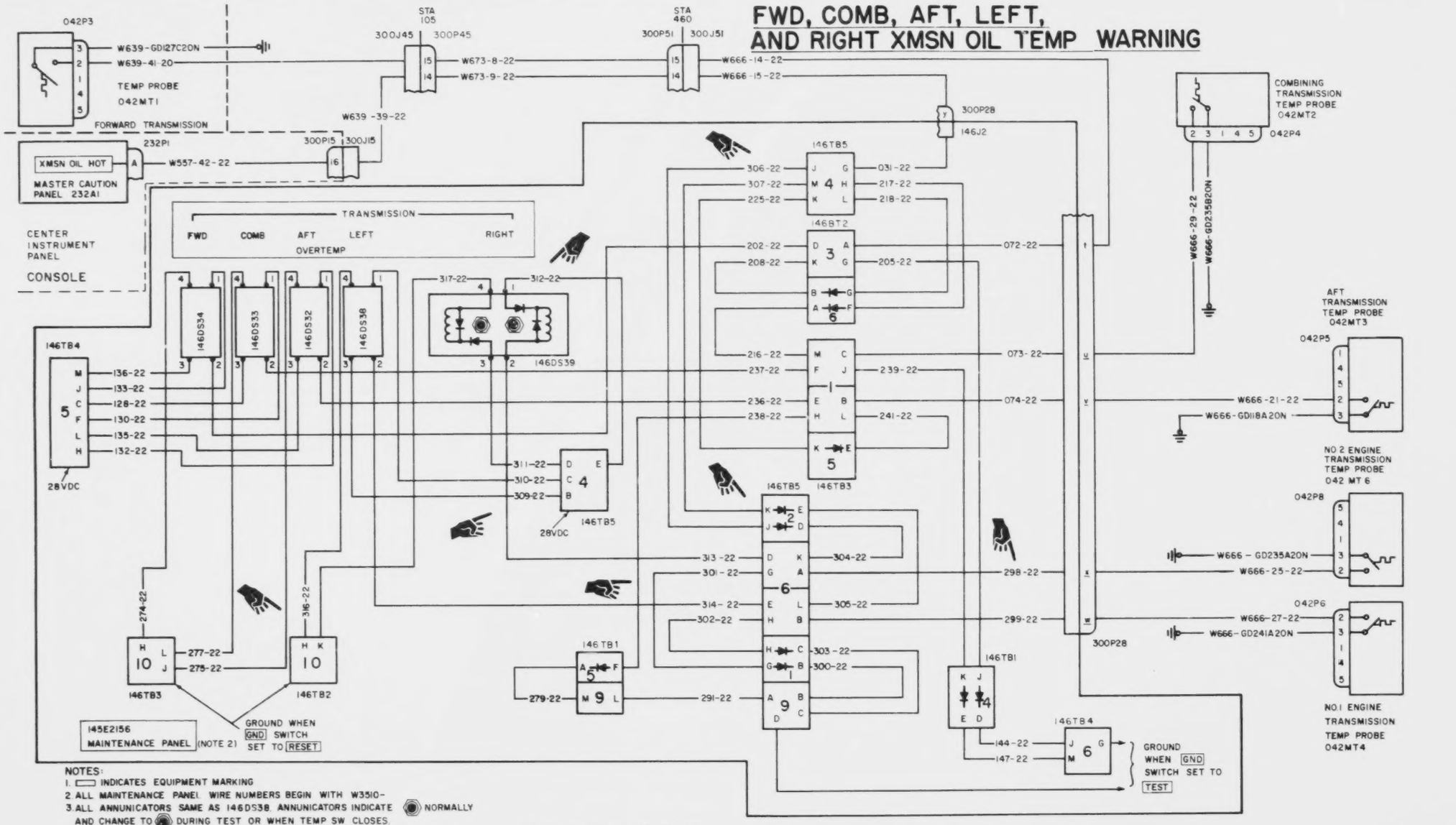
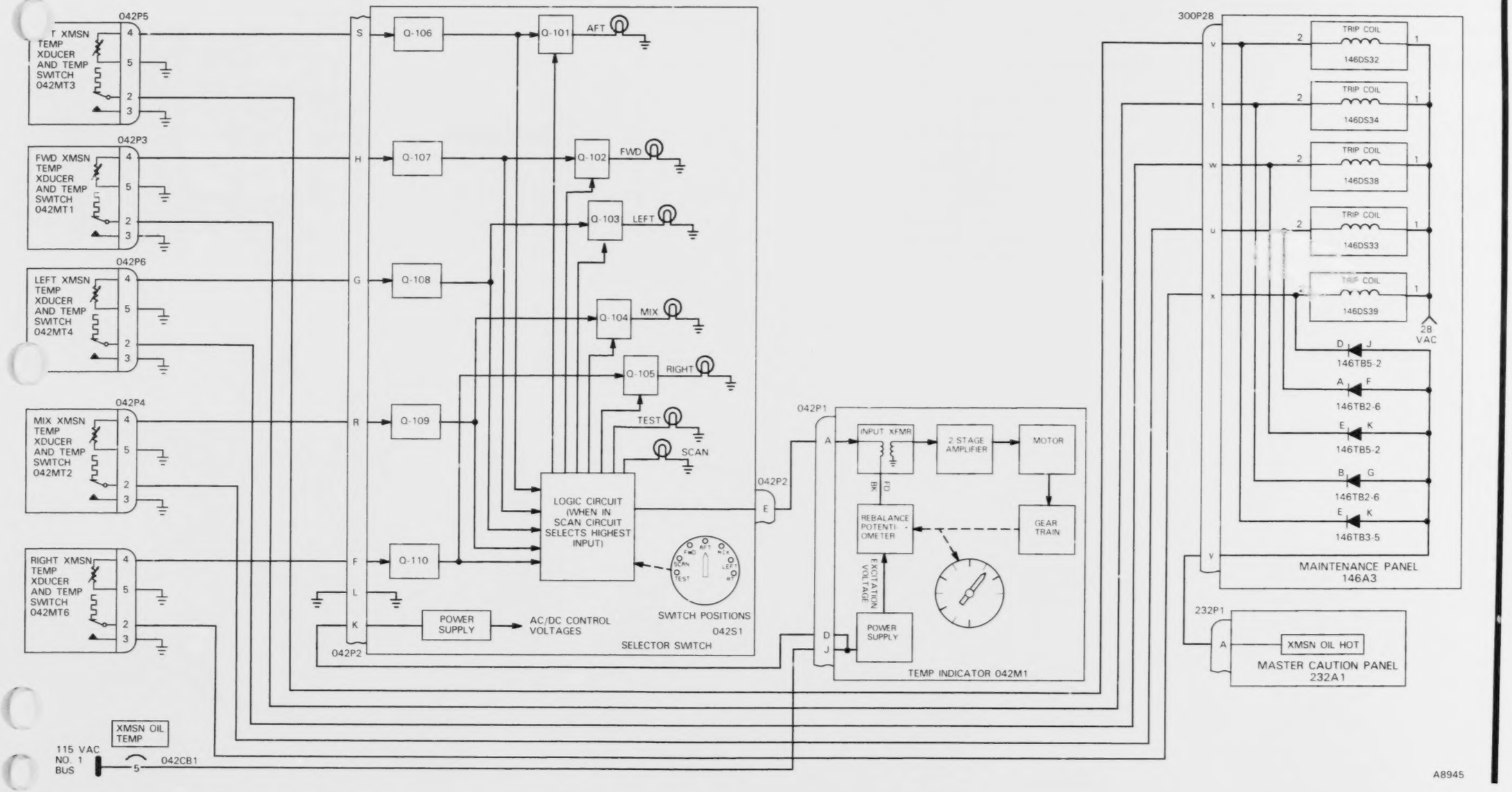
8-10.1 TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM WIRING DIAGRAM (Continued)



END OF TASK


042P5
T XMSN TEMP XDUCER AND TEMP SWITCH 042MT3
042P3
FWD XMSN TEMP XDUCER AND TEMP SWITCH 042MT1
042P6
LEFT XMSN TEMP XDUCER AND TEMP SWITCH 042MT4
042P4
MIX XMSN TEMP XDUCER AND TEMP SWITCH 042MT2
RIGHT XMSN TEMP XDUCER AND TEMP SWITCH 042MT6
S
H
G
R
F
L
K
Q-106
Q-107
Q-108
Q-109
Q-110
Q-101
AFT
Q-102
FWD
Q-103
LEFT
Q-104
MIX
Q-105
RIGHT
TEST
SCAN
LOGIC CIRCUIT (WHEN IN SCAN CIRCUIT SELECTS HIGHEST INPUT)
POWER SUPPLY
AC/DC CONTROL VOLTAGES
SWITCH POSITIONS
042S1
SELECTOR SWITCH
042P2
042P2
E
042P1
A
INPUT XFMR
2 STAGE AMPLIFIER
MOTOR
BK
FD
REBALANCE POTENTI-OMETER
GEAR TRAIN
EXCITATION VOLTAGE
POWER SUPPLY
D
J
TEMP INDICATOR 042M1
300P28
TRIP COIL
146DS32
146DS34
146DS38
146DS33
146DS39
28 VAC
146TB5-2
146TB2-6
146TB5-2
146TB2-6
146TB3-5
MAINTENANCE PANEL 146A3
232P1
XMSN OIL HOT
MASTER CAUTION PANEL 232A1
XMSN OIL TEMP
115 VAC NO. 1 BUS
042CB1
A8945

8-10.2 TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

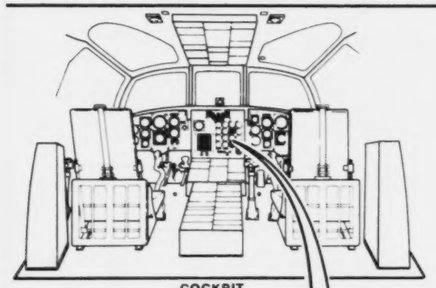
Tools:
Aircraft Mechanic's Tool Kit,
NSN 5180-00-323-4692

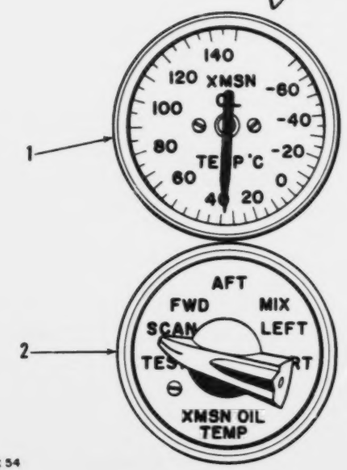
Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Left and Right Forward Work Platforms Open
Forward Drip Pan Removed
Aft Transmission Baffles Open
Pylon Hinged Fairing Open
Pylon Lower Fairing Open
Engine Air Inlet Screen Removed
Engine Transmission Fairing Removed
Cargo Ramp Open and Level (Task 7-3 3)





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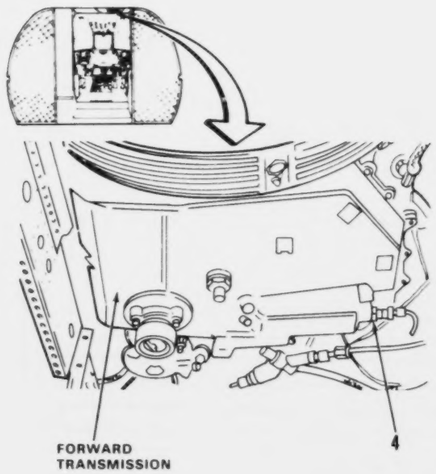

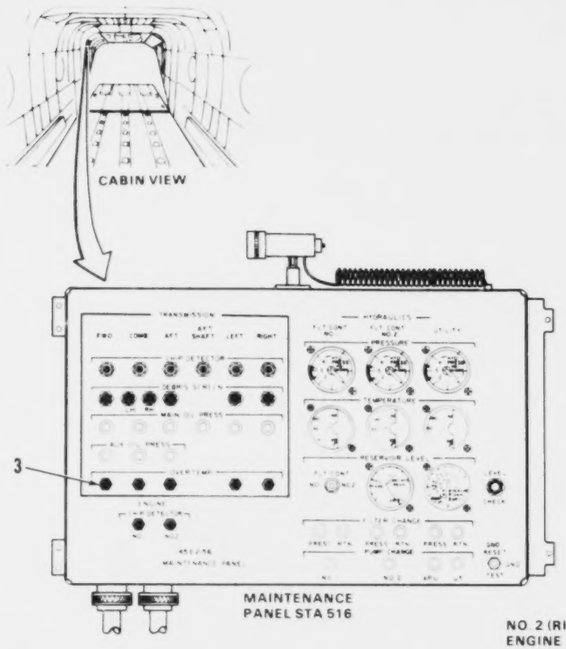

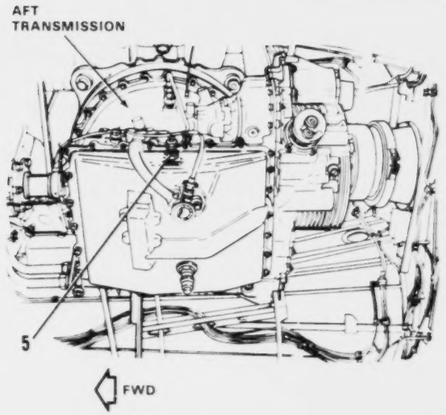

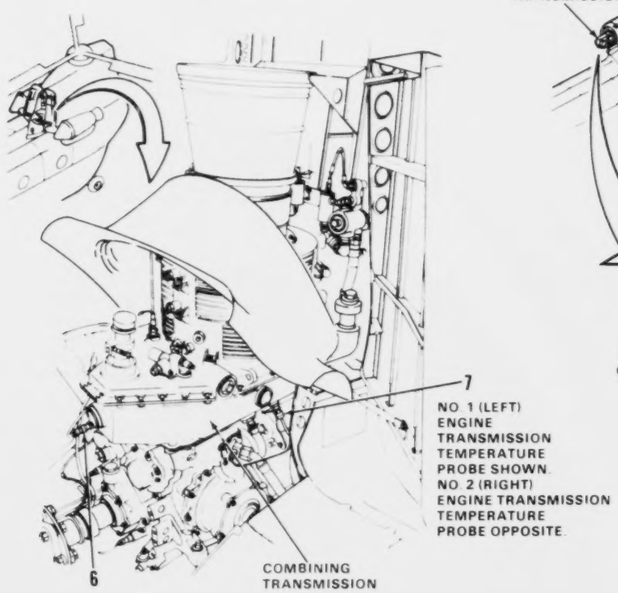

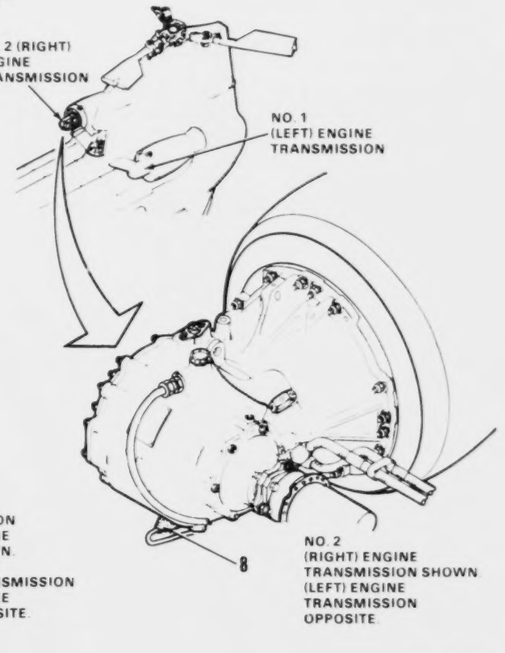

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8-10.2 TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM VISUAL CHECK (Continued)

TASK	RESULT
1. **Check TRANSMISSION TEMP indicator (1).**	If indicator (1) is loose or damaged, tighten or replace it as required.
2. **Check TRANSMISSION TEMP** switch (2).	If switch (2) is loose or damaged, tighten or replace it as required.
3. **Check five OVERTEMP** indicators (3).	If any indicator (3) is loose or damaged, tighten or replace it as required.
CHECK FORWARD TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM INSTALLATION	
4. Check temperature probe (4).	If probe (4) is damaged, replace it. If wiring or electrical connector to probe is damaged, repair or replace as required.
CHECK AFT TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM INSTALLATION	
5. Check temperature probe (5).	If probe (5) is damaged, replace it. If wiring or electrical connector to probe is damaged, repair or replace it as required.
CHECK COMBINING TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM INSTALLATION	
6. Check temperature probe (6).	If probe (6) is damaged, replace it. If wiring or electrical connector to probe is damaged, repair or replace it as required.
CHECK NO. 1 (LEFT) ENGINE TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM INSTALLATION	
7. Check temperature probe (7).	If probe (7) is damaged, replace it. If wiring or electrical connector to probe is damaged, repair or replace it as required.
8. Check temperature and chip detector (8).	If detector (8) is damaged, replace it. If wiring or electrical connector to detector is damaged, repair or replace it as required.
CHECK NO. 2 (RIGHT) ENGINE TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM INSTALLATION	
9. Check temperature probe (7).	If probe (7) is damaged, replace it. If wiring or electrical connector to probe is damaged, repair or replace it as required.
10. Check temperature and chip detector (8).	If detector (8) is damaged, replace it. If wiring or electrical connector to detector is damaged, repair or replace it as required.

FOLLOW-ON MAINTENANCE:

None

END OF TASK

8-10.3 TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

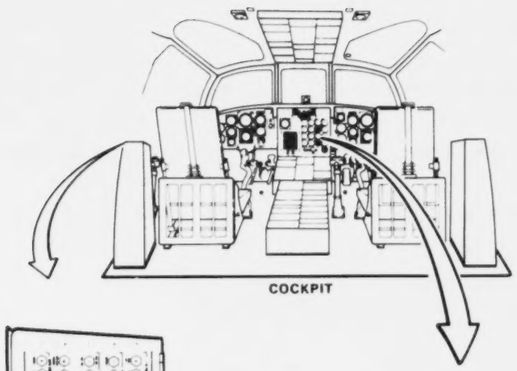
Materials:
None

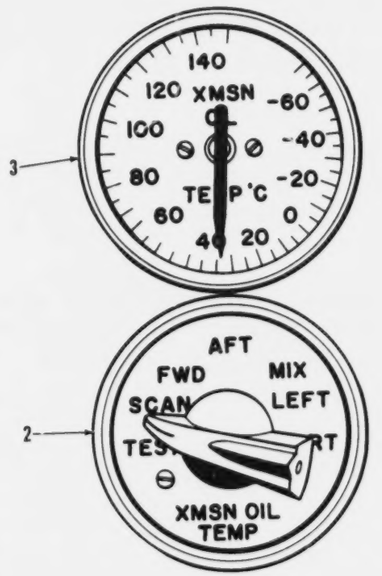
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Visual Check of Transmission Oil Temperature Indicating and Warning System Performed (Task 8-10.2)

TASK	RESULT
CHECK TRANSMISSION OIL TEMPERATURE INDICATING SYSTEM	
1. **Check** that **XMSN OIL TEMP circuit breaker (1)** is **closed.**	If circuit breaker (1) is open, close it. If it opens again, go to Task 8-10.4.
2. **Set** and **hold XMSN OIL TEMP switch (2)** to **TEST.**	Pointer on XMSN TEMP indicator (3) shall indicate below –70°C (–94°F). Switch (2) TEST position shall light. If pointer does not move below –70°C point, go to Task 8-10.5. If pointer moves below –70°C point but switch TEST position does not light, replace switch.
3. **Release XMSN OIL TEMP switch (2).**	Switch (2) shall return to SCAN position. SCAN position shall light. Indicator pointer shall move up scale and display a temperature near ambient temperature.
4. **Record indication on XMSN TEMP indicator (3).**	If switch does not return to SCAN, or SCAN position does not light, replace switch. If indicator pointer does not indicate near ambient temperature, go to Task 8-10.6.





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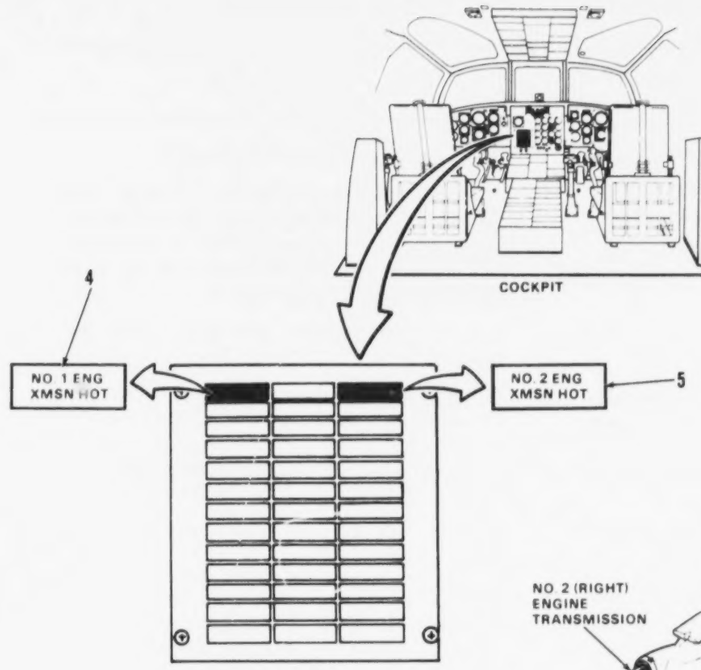
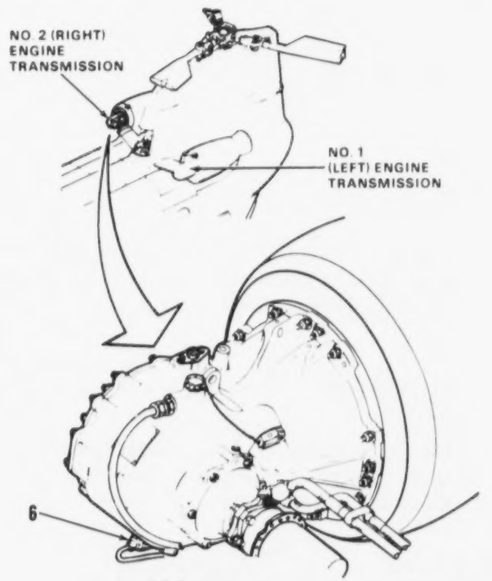
8-10.3 TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM OPERATIONAL CHECK (Continued)

TASK	RESULT
5. **Turn XMSN OIL TEMP switch (2)** to **FWD, AFT, MIX, LEFT, then RT position. Record indication** on **XMSN TEMP indicator (3)** for each switch position.	Each switch position shall light when selected. If not, replace XMSN OIL TEMP switch (2). Each indicator (3) indication shall be near ambient temperature. If not, go to Task 8-10.7.
6. **Compare highest indication recorded in step 5 with indication recorded in step 4.**	The difference in indications shall not exceed 5 percent. If it does, replace XMSN OIL TEMP switch (3).
7. **Turn XMSN OIL TEMP switch (2)** to **SCAN.**	Switch position that recorded highest indication in step 5 shall light. If it does not, replace switch (3).
CHECK TRANSMISSION OIL TEMPERATURE WARNING SYSTEM	
8. **Check NO. 1 ENG XMSN HOT** and **NO. 2 ENG XMSN HOT capsules (4 and 5).**	If capsule (4 or 5) is lit, go to Task 8-10.8.
9. **Disconnect plug** from **No. 1 (left) engine transmission temperature and chip detector (6). Short plug pins 3 and 4** with a wire.	NO. 1 ENG XMSN HOT capsule (4) shall come on. If it does not, go to Task 8-10.9.
10. **Remove wire.** Connect plug to temperature and chip detector (6).	Capsule (4) shall go out.
11. **Disconnect plug** from **No. 2 (right) engine transmission temperature and chip detector (6). Short plug pins 3 and 4** with a wire.	NO. 2 ENG XMSN HOT capsule (5) shall come on. If it does not, go to Task 8-10.9.
12. **Remove wire.** Connect plug to temperature and chip detector (6).	Capsule (5) shall go out.




NO. 2 (RIGHT) ENGINE TRANSMISSION
NO. 1 (LEFT) ENGINE TRANSMISSION
6
NO. 2 (RIGHT) ENGINE TRANSMISSION SHOWN
NO. 1 (LEFT) ENGINE TRANSMISSION OPPOSITE
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8-10.3 TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM OPERATIONAL CHECK (Continued)

TASK	RESULT
13. **Check XMSN OIL HOT capsule (7).**	If capsule (7) is lit, go to Task 8-10.10.
14. **Disconnect plug** from **forward transmission temperature probe (8). Short plug pins 2 and 3** with a wire.	XMSN OIL HOT capsule (7) shall come on. FORWARD TRANSMISSION OVERTEMP indicator (9) shall turn to a black-and-white fan display. If capsule (7) does not come on or annunciator (9) stays black, go to Task 8-10.11.
15. **Remove wire** and connect plug to probe (8)	Capsule (7) shall go out. Indicator (9) shall stay black and white.
16. **Disconnect plug** from **aft transmission temperature probe (10). Short plug pins 2 and 3** with a wire.	XMSN OIL HOT capsule (7) shall come on. AFT TRANSMISSION OVERTEMP indicator (11) shall turn to a black-and-white fan display. If capsule (7) does not come on or indicator (11) stays black, go to Task 8-10.12.
17. **Remove wire** and connect plug to probe (10).	Capsule (7) shall go out. Indicator (11) shall stay black and white.
18. **Disconnect plug** from **combining transmission temperature probe (12). Short plug pins 2 and 3** with a wire.	XMSN OIL HOT capsule (7) shall come on. COMB TRANSMISSION OVERTEMP indicator (13) shall turn to a black-and-white fan display. If capsule (7) does not come on or indicator (13) stays black, go to Task 8-10.13.
19. **Remove wire** and connect plug to probe (12).	Capsule (7) shall go out. Indicator (13) shall stay black and white.
20. **Disconnect plug** from **No. 1 (left) engine transmission temperature probe (14). Short plug pins 2 and 3** with a wire.	XMSN OIL HOT capsule (7) shall come on. LEFT TRANSMISSION OVERTEMP indicator (15) shall turn to a black-and-white fan display. If capsule (7) does not come on or indicator (15) stays black, go to Task 8-10.14.
21. **Remove wire** and connect plug to probe (14).	Capsule (7) shall go out. Indicator (15) shall stay black and white.
22. **Disconnect plug** from **No. 2 (right) engine transmission temperature probe (14). Short plug pins 2 and 3** with a wire.	XMSN OIL HOT capsule (7) shall come on. RIGHT TRANSMISSION OVERTEMP indicator (16) shall turn to a black-and-white fan display. If capsule (7) does not come on or indicator (16) stays black, go to Task 8-10.15.
23. **Remove wire** and connect plug to probe (14).	Capsule (7) shall go out. Indicator (16) shall stay black and white.
24. **Set GND switch (17)** to **RESET then** to **GND.**	Indicators (9, 11, 13, 15, and 16) shall turn all black. If any indicators are still black and white, go to Task 8-10.16.

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23
- Electrical Power Off
- Battery Disconnected
- Forward Drip Pan Installed
- Left and Right Forward Work Platforms Closed
- Aft Transmission Baffles Closed
- Pylon Hinged Fairing Closed
- Pylon Lower Fairing Closed
- Engine Transmission Fairing Installed
- Engine Air Inlet Screens Installed

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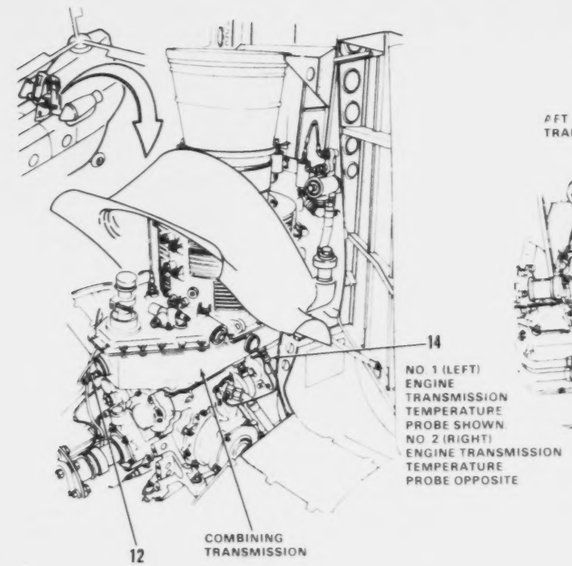
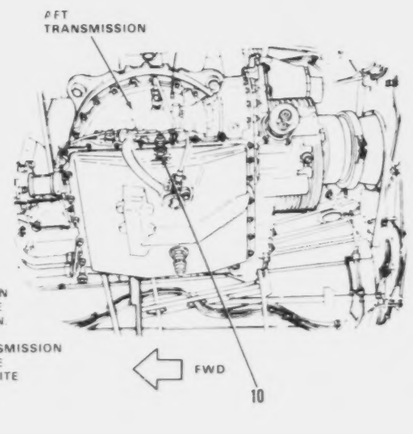
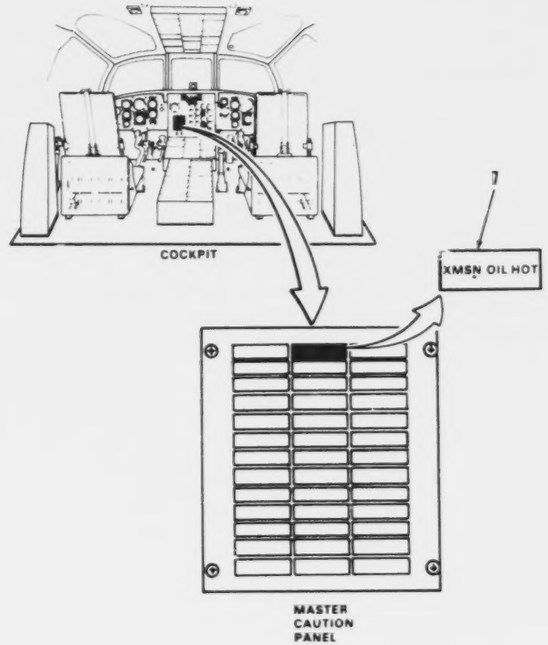
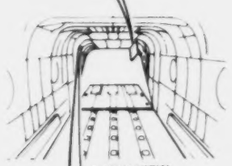
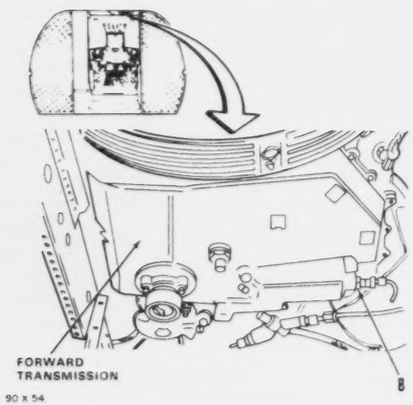
8-10.3 TRANSMISSION OIL TEMPERATURE INDICATING AND WARNING SYSTEM OPERATIONAL CHECK (Continued)

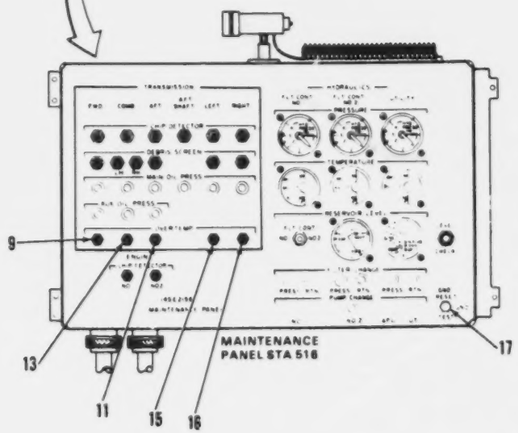

14
NO. 1 (LEFT) ENGINE TRANSMISSION TEMPERATURE PROBE SHOWN
NO. 2 (RIGHT) ENGINE TRANSMISSION TEMPERATURE PROBE OPPOSITE
12
COMBINING TRANSMISSION











INDICATOR BLACK AND WHITE FAN DISPLAY

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END OF TASK

8-10.4 XMSN OIL TEMP CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

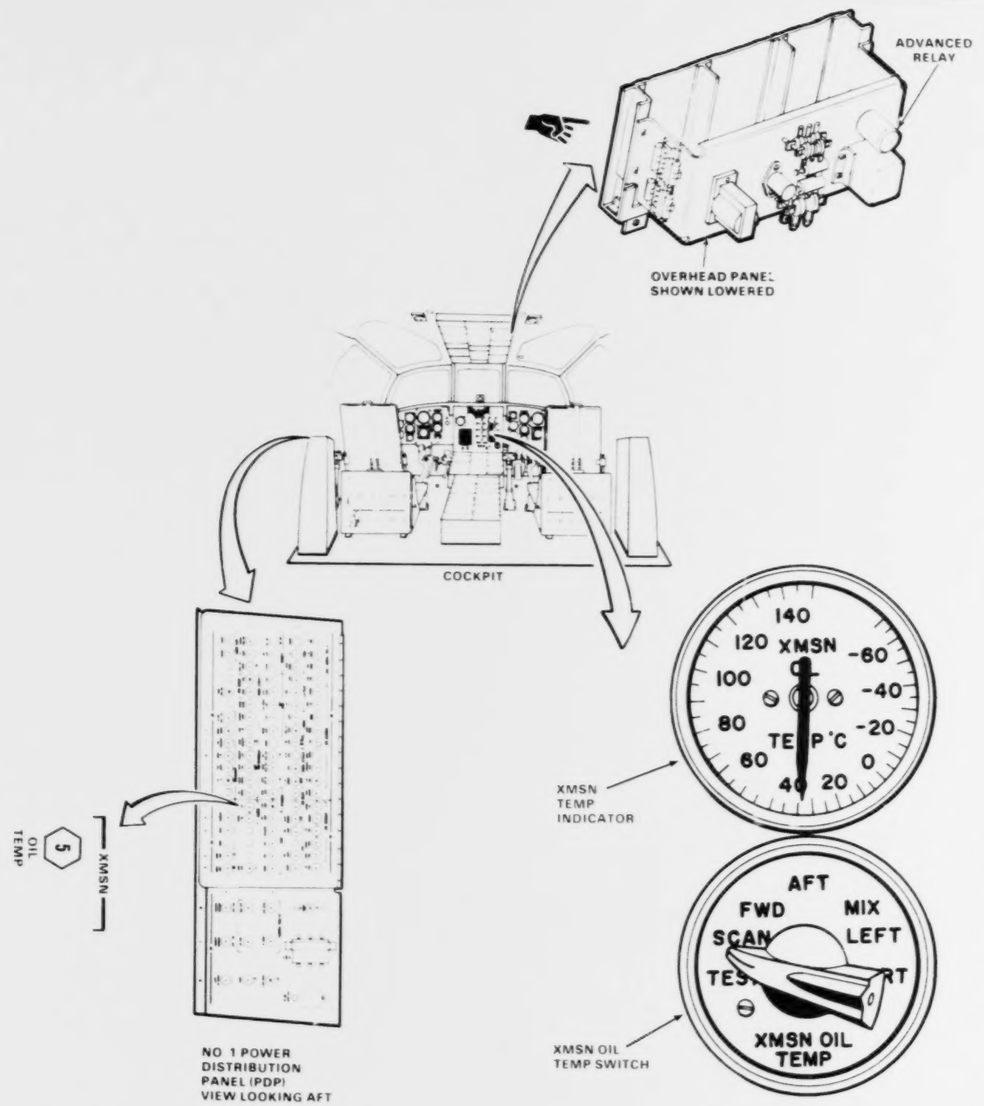
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



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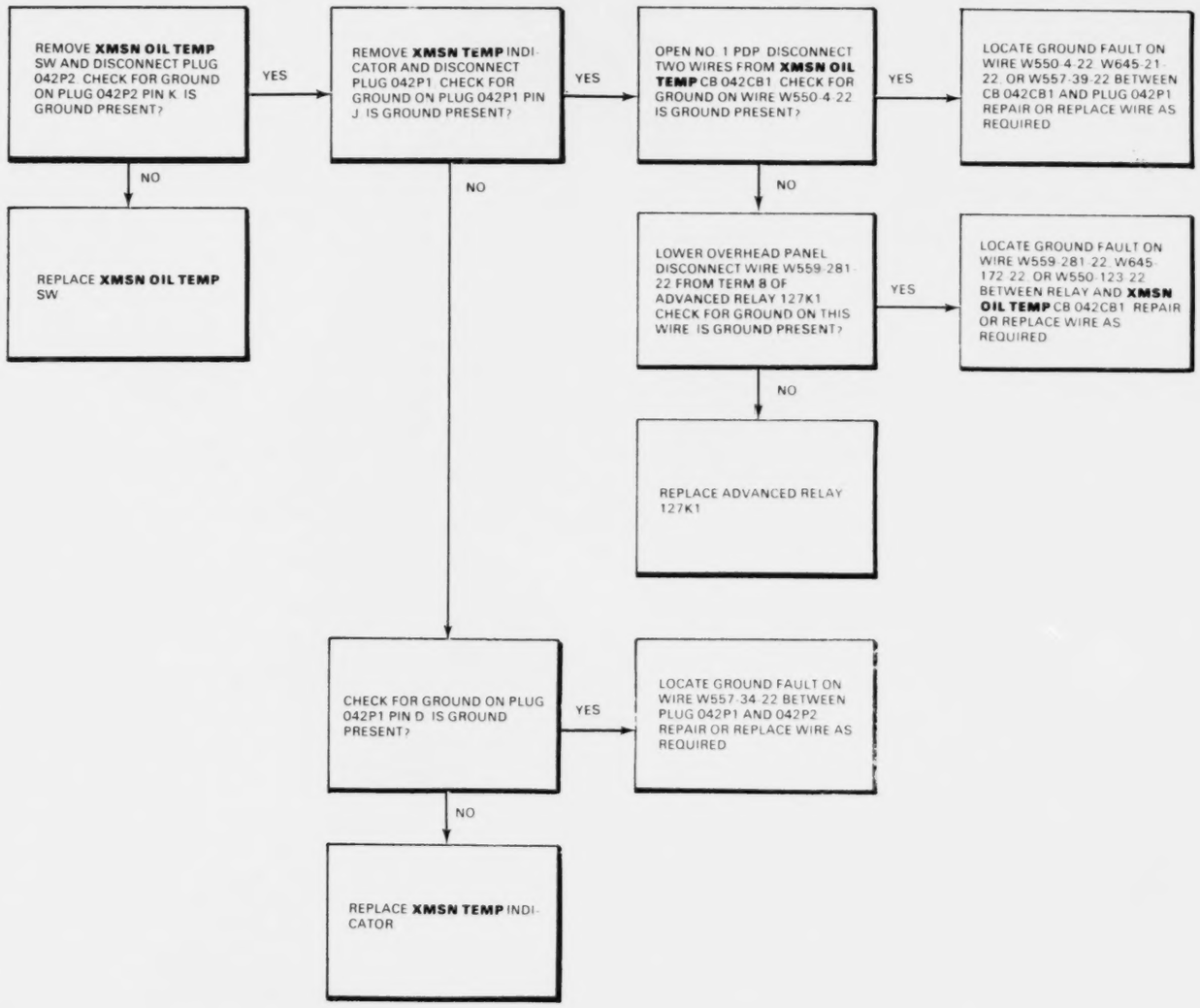
8-10.4 XMSN OIL TEMP CIRCUIT BREAKER WILL NOT STAY CLOSED (Continued)


REMOVE **XMSN OIL TEMP** SW AND DISCONNECT PLUG 042P2. CHECK FOR GROUND ON PLUG 042P2 PIN K. IS GROUND PRESENT?
YES
REMOVE **XMSN TEMP** INDICATOR AND DISCONNECT PLUG 042P1. CHECK FOR GROUND ON PLUG 042P1 PIN J. IS GROUND PRESENT?
YES
OPEN NO. 1 PDP. DISCONNECT TWO WIRES FROM **XMSN OIL TEMP** CB 042CB1. CHECK FOR GROUND ON WIRE W550-4-22. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W550-4-22, W645-21-22, OR W557-39-22 BETWEEN CB 042CB1 AND PLUG 042P1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE **XMSN OIL TEMP** SW
NO
LOWER OVERHEAD PANEL. DISCONNECT WIRE W559-281-22 FROM TERM 8 OF ADVANCED RELAY 127K1. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W559-281-22, W645-172-22, OR W550-123-22 BETWEEN RELAY AND **XMSN OIL TEMP** CB 042CB1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE ADVANCED RELAY 127K1
CHECK FOR GROUND ON PLUG 042P1 PIN D. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W557-34-22 BETWEEN PLUG 042P1 AND 042P2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE **XMSN TEMP** INDICATOR

END OF TASK

8-10.5 XMSN TEMP INDICATOR POINTER DOES NOT MOVE BELOW –70° C DURING TEST

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

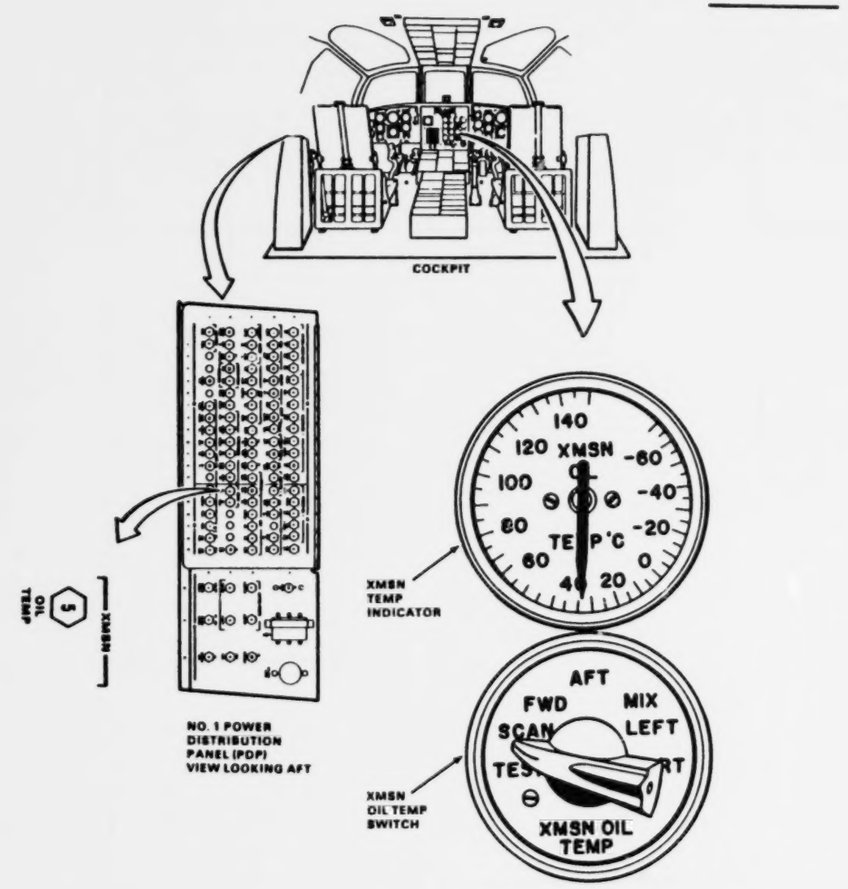
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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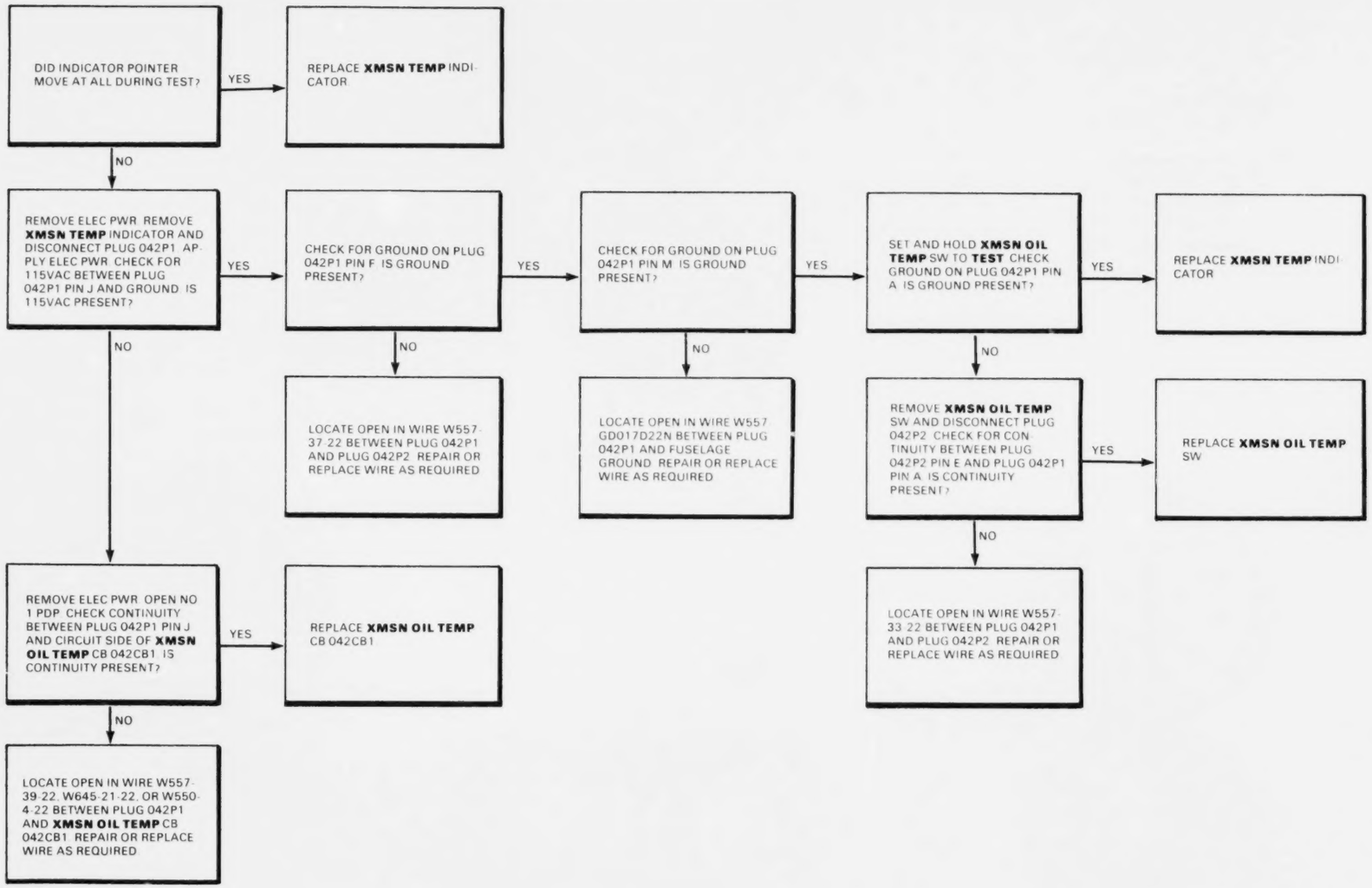
8-10.5 XMSN TEMP INDICATOR POINTER DOES NOT MOVE BELOW −70° DURING TEST (Continued)


DID INDICATOR POINTER MOVE AT ALL DURING TEST?
YES
REPLACE **XMSN TEMP** INDICATOR
NO
REMOVE ELEC PWR. REMOVE **XMSN TEMP** INDICATOR AND DISCONNECT PLUG 042P1. APPLY ELEC PWR. CHECK FOR 115VAC BETWEEN PLUG 042P1 PIN J AND GROUND. IS 115VAC PRESENT?
YES
CHECK FOR GROUND ON PLUG 042P1 PIN F. IS GROUND PRESENT?
YES
CHECK FOR GROUND ON PLUG 042P1 PIN M. IS GROUND PRESENT?
YES
SET AND HOLD **XMSN OIL TEMP** SW TO **TEST**. CHECK GROUND ON PLUG 042P1 PIN A. IS GROUND PRESENT?
YES
REPLACE **XMSN TEMP** INDICATOR
NO
LOCATE OPEN IN WIRE W557-37-22 BETWEEN PLUG 042P1 AND PLUG 042P2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-GD017D22N BETWEEN PLUG 042P1 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REMOVE **XMSN OIL TEMP** SW AND DISCONNECT PLUG 042P2. CHECK FOR CONTINUITY BETWEEN PLUG 042P2 PIN E AND PLUG 042P1 PIN A. IS CONTINUITY PRESENT?
YES
REPLACE **XMSN OIL TEMP** SW
NO
LOCATE OPEN IN WIRE W557-33-22 BETWEEN PLUG 042P1 AND PLUG 042P2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REMOVE ELEC PWR. OPEN NO 1 PDP. CHECK CONTINUITY BETWEEN PLUG 042P1 PIN J AND CIRCUIT SIDE OF **XMSN OIL TEMP** CB 042CB1. IS CONTINUITY PRESENT?
YES
REPLACE **XMSN OIL TEMP** CB 042CB1
NO
LOCATE OPEN IN WIRE W557-39-22, W645-21-22, OR W550-4-22 BETWEEN PLUG 042P1 AND **XMSN OIL TEMP** CB 042CB1. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-10.6 XMSN TEMP INDICATOR POINTER DOES NOT INDICATE AMBIENT TEMPERATURE AT SCAN

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

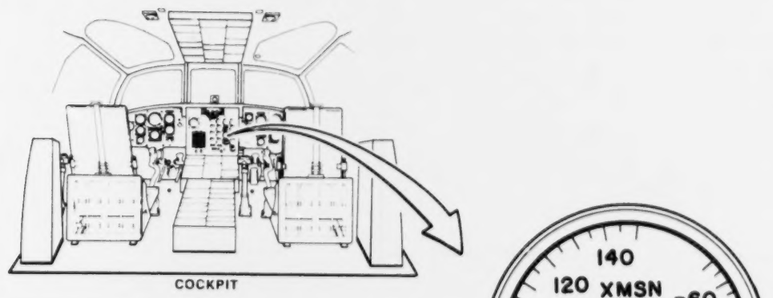
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

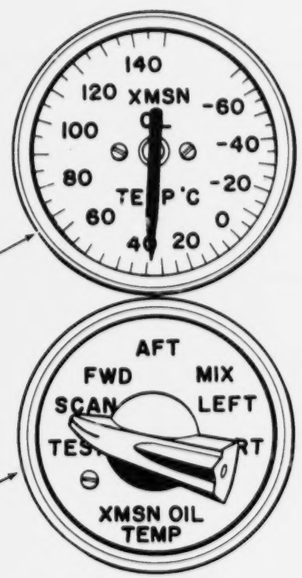
Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off





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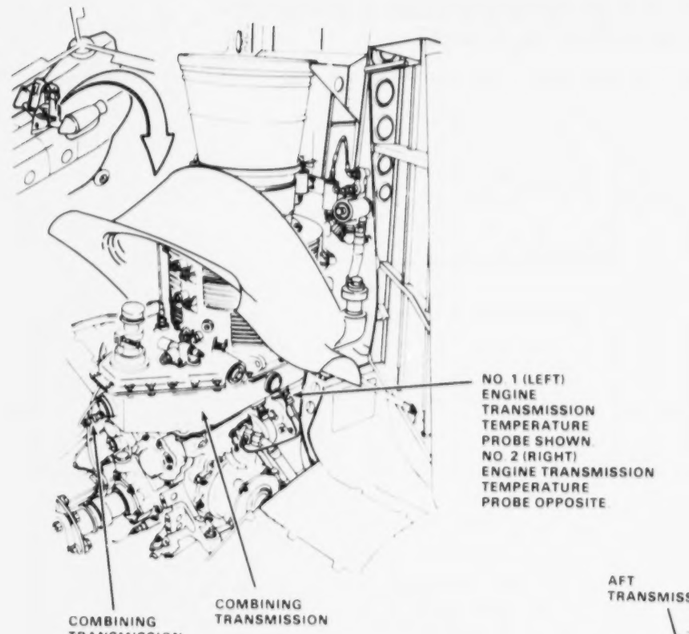
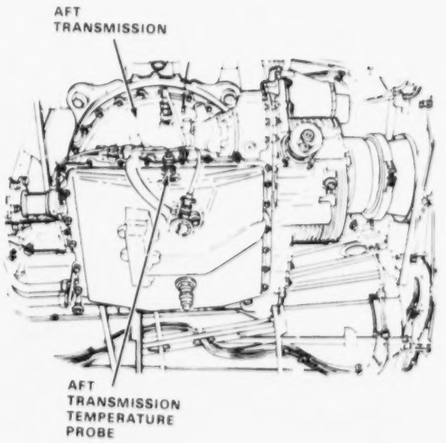
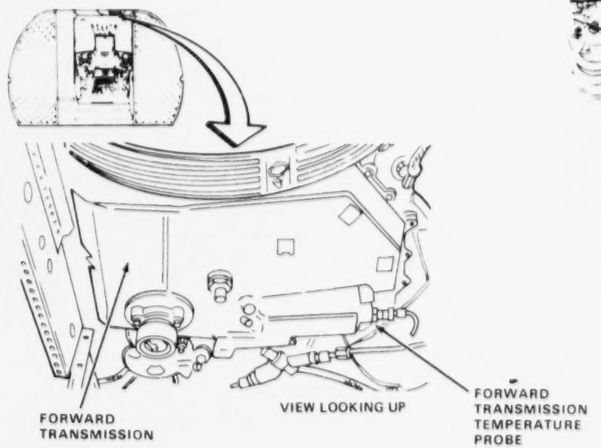

NO. 1 (LEFT) ENGINE TRANSMISSION TEMPERATURE PROBE SHOWN
NO. 2 (RIGHT) ENGINE TRANSMISSION TEMPERATURE PROBE OPPOSITE
COMBINING TRANSMISSION TEMPERATURE PROBE
COMBINING TRANSMISSION





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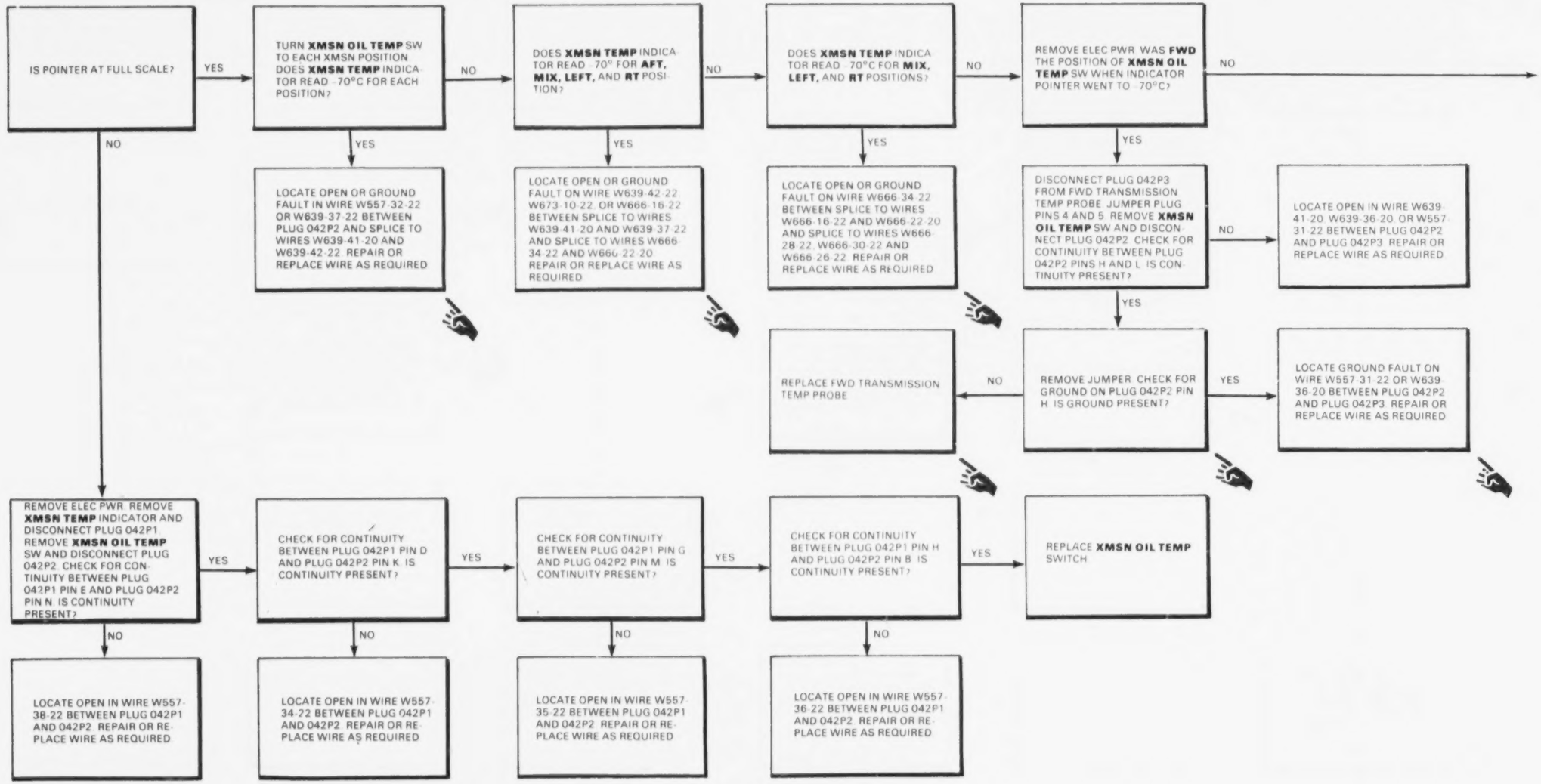
8-10.6 XMSN TEMP INDICATOR POINTER DOES NOT INDICATE AMBIENT TEMPERATURE AT SCAN (Continued)


IS POINTER AT FULL SCALE?
YES
TURN XMSN OIL TEMP SW TO EACH XMSN POSITION. DOES XMSN TEMP INDICATOR READ -70°C FOR EACH POSITION?
NO
DOES XMSN TEMP INDICATOR READ -70°C FOR AFT, MIX, LEFT, AND RT POSITION?
NO
DOES XMSN TEMP INDICATOR READ -70°C FOR MIX, LEFT, AND RT POSITIONS?
NO
REMOVE ELEC PWR. WAS FWD THE POSITION OF XMSN OIL TEMP SW WHEN INDICATOR POINTER WENT TO -70°C?
NO
YES
LOCATE OPEN OR GROUND FAULT IN WIRE W557-32-22 OR W639-37-22 BETWEEN PLUG 042P2 AND SPLICE TO WIRES W639-41-20 AND W639-42-22. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE OPEN OR GROUND FAULT ON WIRE W639-42-22 W673-10-22, OR W666-16-22 BETWEEN SPLICE TO WIRES W639-41-20 AND W639-37-22 AND SPLICE TO WIRES W666-34-22 AND W666-22-20. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE OPEN OR GROUND FAULT ON WIRE W666-34-22 BETWEEN SPLICE TO WIRES W666-16-22 AND W666-22-20 AND SPLICE TO WIRES W666-28-22, W666-30-22 AND W666-26-22. REPAIR OR REPLACE WIRE AS REQUIRED
YES
DISCONNECT PLUG 042P3 FROM FWD TRANSMISSION TEMP PROBE. JUMPER PLUG PINS 4 AND 5. REMOVE XMSN OIL TEMP SW AND DISCONNECT PLUG 042P2. CHECK FOR CONTINUITY BETWEEN PLUG 042P2 PINS H AND L. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W639-41-20, W639-36-20, OR W557-31-22 BETWEEN PLUG 042P2 AND PLUG 042P3. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE JUMPER. CHECK FOR GROUND ON PLUG 042P2 PIN H. IS GROUND PRESENT?
NO
REPLACE FWD TRANSMISSION TEMP PROBE
YES
LOCATE GROUND FAULT ON WIRE W557-31-22 OR W639-36-20 BETWEEN PLUG 042P2 AND PLUG 042P3. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REMOVE ELEC PWR. REMOVE XMSN TEMP INDICATOR AND DISCONNECT PLUG 042P1. REMOVE XMSN OIL TEMP SW AND DISCONNECT PLUG 042P2. CHECK FOR CONTINUITY BETWEEN PLUG 042P1 PIN E AND PLUG 042P2 PIN N. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 042P1 PIN D AND PLUG 042P2 PIN K. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 042P1 PIN G AND PLUG 042P2 PIN M. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 042P1 PIN H AND PLUG 042P2 PIN B. IS CONTINUITY PRESENT?
YES
REPLACE XMSN OIL TEMP SWITCH
NO
LOCATE OPEN IN WIRE W557-38-22 BETWEEN PLUG 042P1 AND 042P2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-34-22 BETWEEN PLUG 042P1 AND 042P2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-35-22 BETWEEN PLUG 042P1 AND 042P2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-36-22 BETWEEN PLUG 042P1 AND 042P2. REPAIR OR REPLACE WIRE AS REQUIRED

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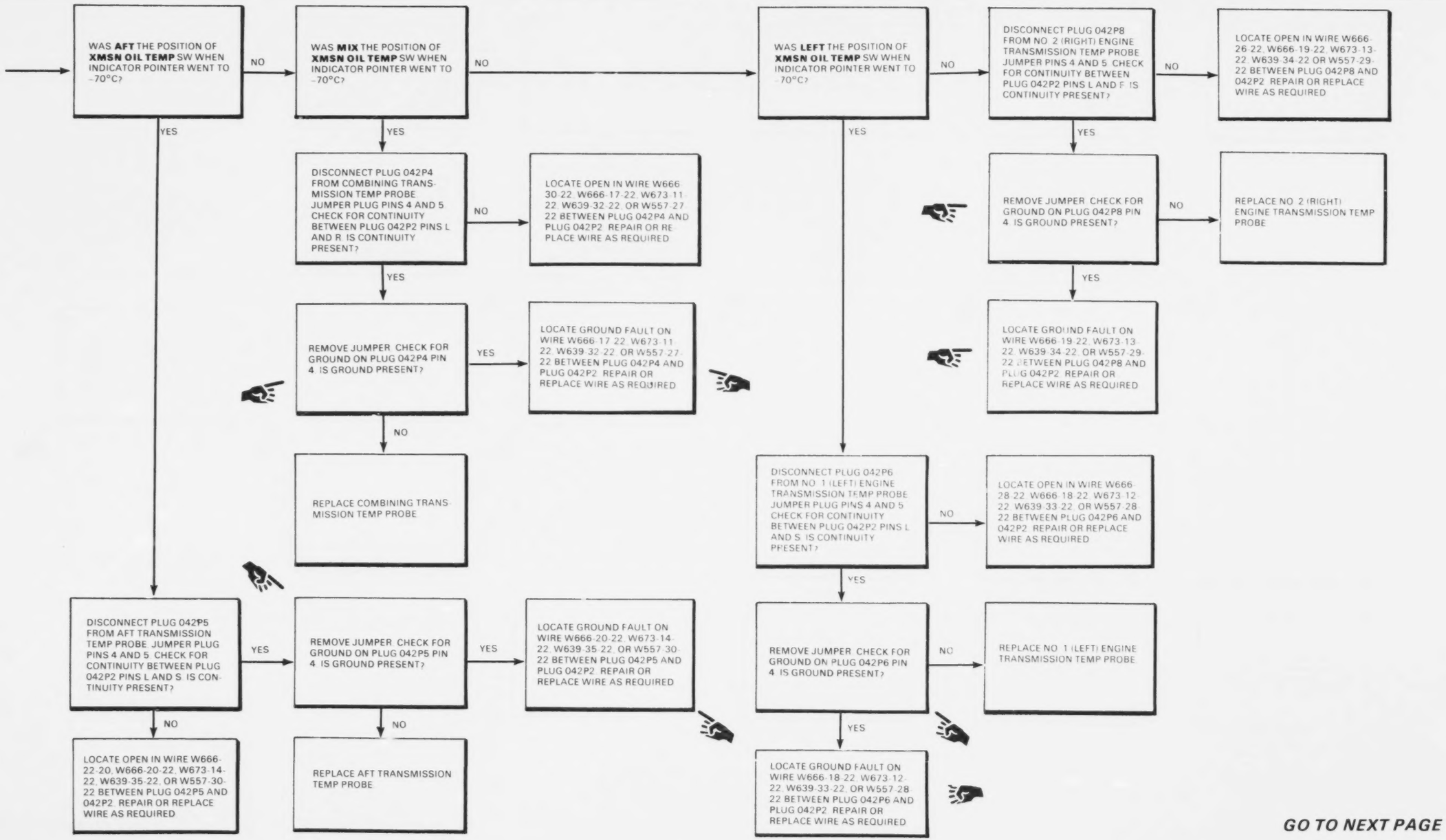
8-10.6 XMSN TEMP INDICATOR POINTER DOES NOT INDICATE AMBIENT TEMPERATURE AT SCAN (Continued)


WAS **AFT** THE POSITION OF **XMSN OIL TEMP** SW WHEN INDICATOR POINTER WENT TO −70°C?
NO
YES
WAS **MIX** THE POSITION OF **XMSN OIL TEMP** SW WHEN INDICATOR POINTER WENT TO −70°C?
NO
YES
DISCONNECT PLUG 042P4 FROM COMBINING TRANSMISSION TEMP PROBE. JUMPER PLUG PINS 4 AND 5. CHECK FOR CONTINUITY BETWEEN PLUG 042P2 PINS L AND R. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W666-30-22, W666-17-22, W673-11-22, W639-32-22, OR W557-27-22 BETWEEN PLUG 042P4 AND PLUG 042P2. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE JUMPER. CHECK FOR GROUND ON PLUG 042P4 PIN 4. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W666-17-22, W673-11-22, W639-32-22, OR W557-27-22 BETWEEN PLUG 042P4 AND PLUG 042P2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE COMBINING TRANSMISSION TEMP PROBE
YES
DISCONNECT PLUG 042P5 FROM AFT TRANSMISSION TEMP PROBE. JUMPER PLUG PINS 4 AND 5. CHECK FOR CONTINUITY BETWEEN PLUG 042P2 PINS L AND S. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W666-22-20, W666-20-22, W673-14-22, W639-35-22, OR W557-30-22 BETWEEN PLUG 042P5 AND 042P2. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE JUMPER. CHECK FOR GROUND ON PLUG 042P5 PIN 4. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W666-20-22, W673-14-22, W639-35-22, OR W557-30-22 BETWEEN PLUG 042P5 AND PLUG 042P2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE AFT TRANSMISSION TEMP PROBE
WAS **LEFT** THE POSITION OF **XMSN OIL TEMP** SW WHEN INDICATOR POINTER WENT TO −70°C?
NO
YES
DISCONNECT PLUG 042P6 FROM NO. 1 (LEFT) ENGINE TRANSMISSION TEMP PROBE. JUMPER PLUG PINS 4 AND 5. CHECK FOR CONTINUITY BETWEEN PLUG 042P2 PINS L AND S. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W666-28-22, W666-18-22, W673-12-22, W639-33-22, OR W557-28-22 BETWEEN PLUG 042P6 AND 042P2. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE JUMPER. CHECK FOR GROUND ON PLUG 042P6 PIN 4. IS GROUND PRESENT?
NO
REPLACE NO. 1 (LEFT) ENGINE TRANSMISSION TEMP PROBE
YES
LOCATE GROUND FAULT ON WIRE W666-18-22, W673-12-22, W639-33-22, OR W557-28-22 BETWEEN PLUG 042P6 AND PLUG 042P2. REPAIR OR REPLACE WIRE AS REQUIRED
DISCONNECT PLUG 042P8 FROM NO. 2 (RIGHT) ENGINE TRANSMISSION TEMP PROBE. JUMPER PINS 4 AND 5. CHECK FOR CONTINUITY BETWEEN PLUG 042P2 PINS L AND F. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W666-26-22, W666-19-22, W673-13-22, W639-34-22 OR W557-29-22 BETWEEN PLUG 042P8 AND 042P2. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE JUMPER. CHECK FOR GROUND ON PLUG 042P8 PIN 4. IS GROUND PRESENT?
NO
REPLACE NO. 2 (RIGHT) ENGINE TRANSMISSION TEMP PROBE
YES
LOCATE GROUND FAULT ON WIRE W666-19-22, W673-13-22, W639-34-22, OR W557-29-22 BETWEEN PLUG 042P8 AND PLUG 042P2. REPAIR OR REPLACE WIRE AS REQUIRED

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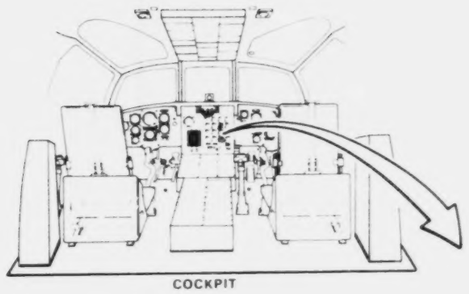
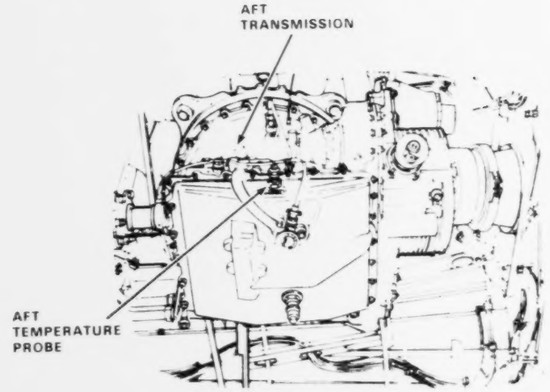
8-10.6 XMSN TEMP INDICATOR POINTER DOES NOT INDICATE AMBIENT TEMPERATURE AT SCAN (Continued)





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END OF TASK

8-10.7 XMSN TEMP INDICATOR DOES NOT READ AMBIENT TEMPERATURE AT SELECTED SWITCH POSITION

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

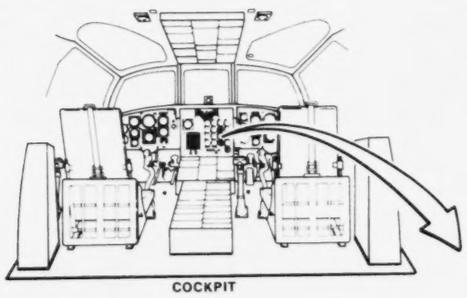
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

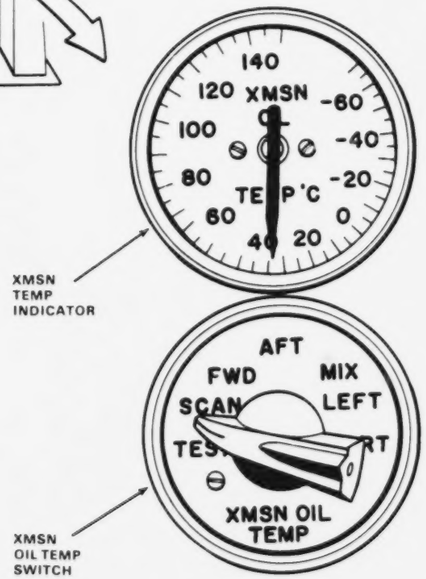
Materials:
None

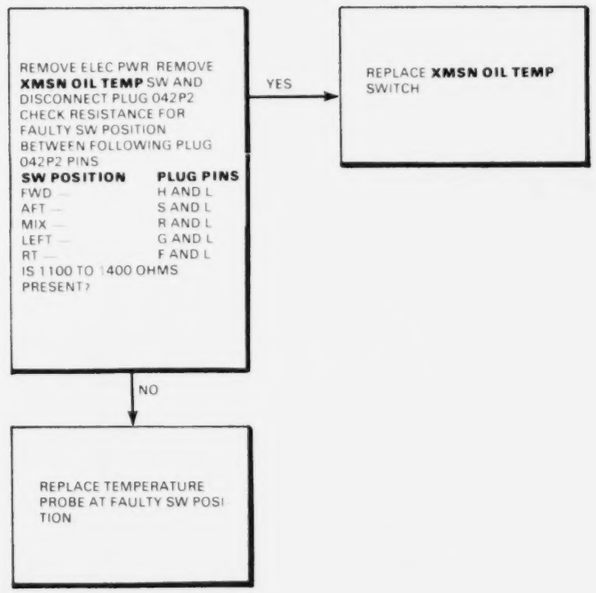
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off






REMOVE ELEC PWR. REMOVE XMSN OIL TEMP SW AND DISCONNECT PLUG 042P2
CHECK RESISTANCE FOR FAULTY SW POSITION BETWEEN FOLLOWING PLUG 042P2 PINS
SW POSITION — PLUG PINS
FWD — H AND L
AFT — S AND L
MIX — R AND L
LEFT — G AND L
RT — F AND L
IS 1100 TO 1400 OHMS PRESENT?
YES
REPLACE XMSN OIL TEMP SWITCH
NO
REPLACE TEMPERATURE PROBE AT FAULTY SW POSITION

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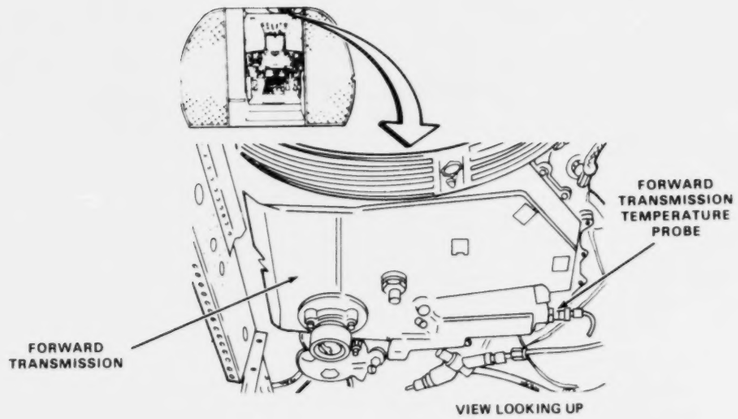
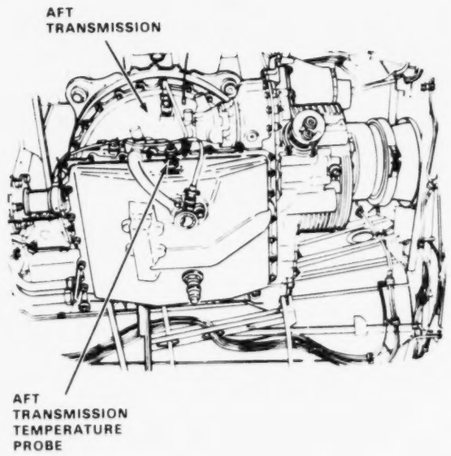


COMBINING TRANSMISSION TEMPERATURE PROBE
COMBINING TRANSMISSION
NO. 1 (LEFT) ENGINE TRANSMISSION TEMPERATURE PROBE SHOWN
NO. 2 (RIGHT) ENGINE TRANSMISSION TEMPERATURE PROBE OPPOSITE



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END OF TASK

8-10.8 ENG XMSN HOT CAPSULE LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

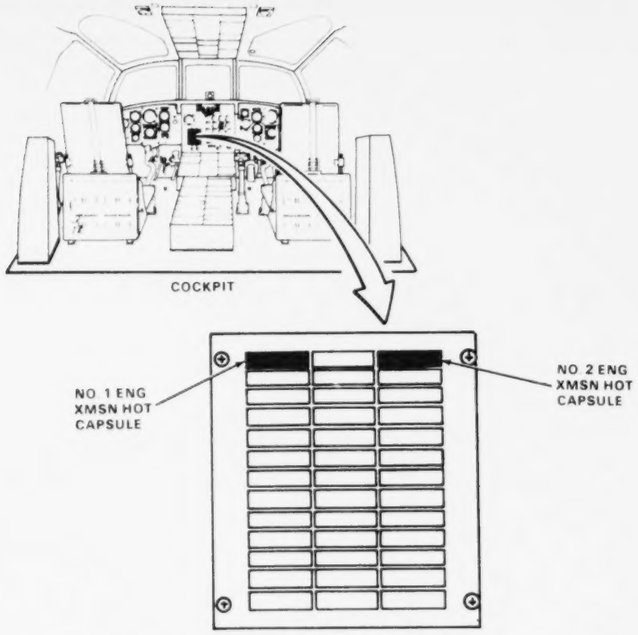
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Aircraft Mechanic's Tool Kit,
NSN 5180-00-323-4692
Multimeter

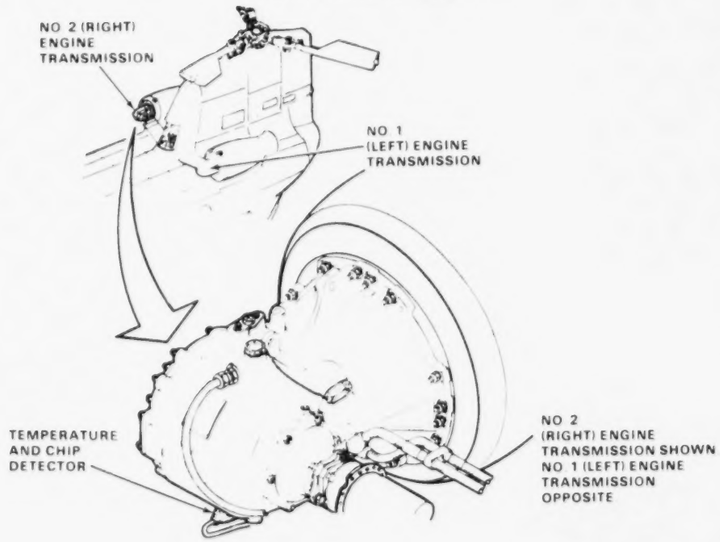
Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off




NO. 2 (RIGHT) ENGINE TRANSMISSION
NO. 1 (LEFT) ENGINE TRANSMISSION
TEMPERATURE AND CHIP DETECTOR
NO. 2 (RIGHT) ENGINE TRANSMISSION SHOWN
NO. 1 (LEFT) ENGINE TRANSMISSION OPPOSITE

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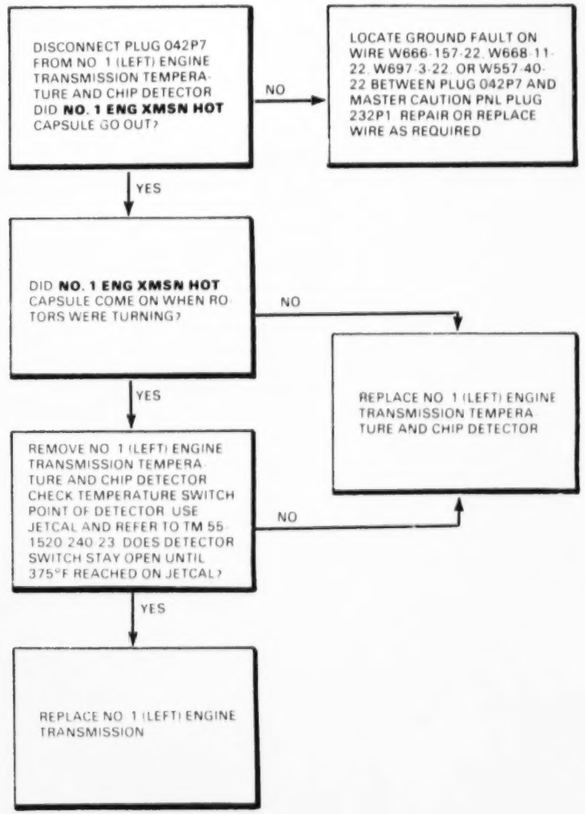
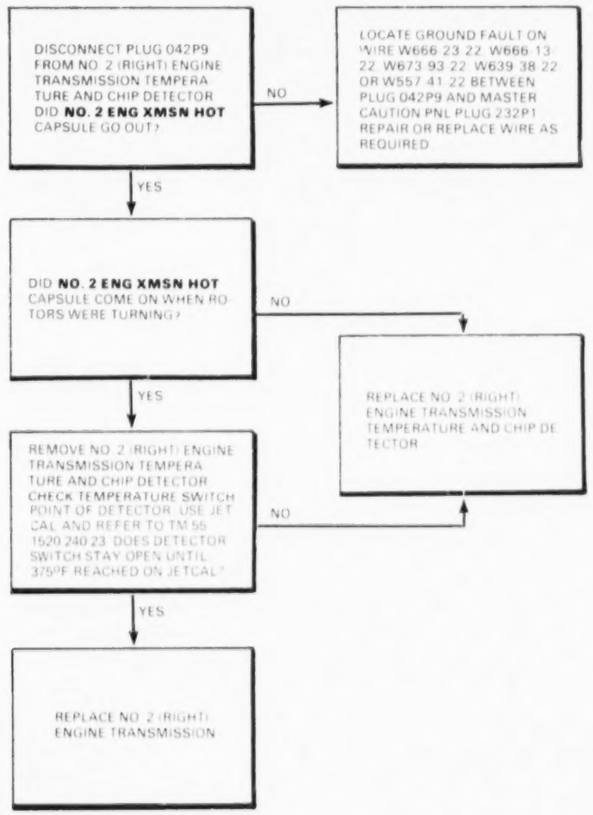
NO. 1 ENG XMSN HOT CAPSULE LIT


DISCONNECT PLUG 042P7 FROM NO. 1 (LEFT) ENGINE TRANSMISSION TEMPERATURE AND CHIP DETECTOR DID **NO. 1 ENG XMSN HOT** CAPSULE GO OUT?
NO
LOCATE GROUND FAULT ON WIRE W666-157-22, W668-11-22, W697-3-22, OR W557-40-22 BETWEEN PLUG 042P7 AND MASTER CAUTION PNL PLUG 232P1. REPAIR OR REPLACE WIRE AS REQUIRED
YES
DID **NO. 1 ENG XMSN HOT** CAPSULE COME ON WHEN ROTORS WERE TURNING?
NO
REPLACE NO. 1 (LEFT) ENGINE TRANSMISSION TEMPERATURE AND CHIP DETECTOR
YES
REMOVE NO. 1 (LEFT) ENGINE TRANSMISSION TEMPERATURE AND CHIP DETECTOR CHECK TEMPERATURE SWITCH POINT OF DETECTOR. USE JETCAL AND REFER TO TM 55-1520-240-23. DOES DETECTOR SWITCH STAY OPEN UNTIL 375°F REACHED ON JETCAL?
NO
YES
REPLACE NO. 1 (LEFT) ENGINE TRANSMISSION

NO. 2 ENG XMSN HOT CAPSULE LIT


DISCONNECT PLUG 042P9 FROM NO. 2 (RIGHT) ENGINE TRANSMISSION TEMPERATURE AND CHIP DETECTOR DID **NO. 2 ENG XMSN HOT** CAPSULE GO OUT?
NO
LOCATE GROUND FAULT ON WIRE W666-23-22, W666-13-22, W673-93-22, W639-38-22 OR W557-41-22 BETWEEN PLUG 042P9 AND MASTER CAUTION PNL PLUG 232P1. REPAIR OR REPLACE WIRE AS REQUIRED
YES
DID **NO. 2 ENG XMSN HOT** CAPSULE COME ON WHEN ROTORS WERE TURNING?
NO
REPLACE NO. 2 (RIGHT) ENGINE TRANSMISSION TEMPERATURE AND CHIP DETECTOR
YES
REMOVE NO. 2 (RIGHT) ENGINE TRANSMISSION TEMPERATURE AND CHIP DETECTOR. CHECK TEMPERATURE SWITCH POINT OF DETECTOR. USE JETCAL AND REFER TO TM 55-1520-240-23. DOES DETECTOR SWITCH STAY OPEN UNTIL 375°F REACHED ON JETCAL?
NO
YES
REPLACE NO. 2 (RIGHT) ENGINE TRANSMISSION

END OF TASK

8-10.9 NO. 1 OR NO. 2 ENG XMSN HOT CAPSULE DOES NOT COME ON DURING TEST

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

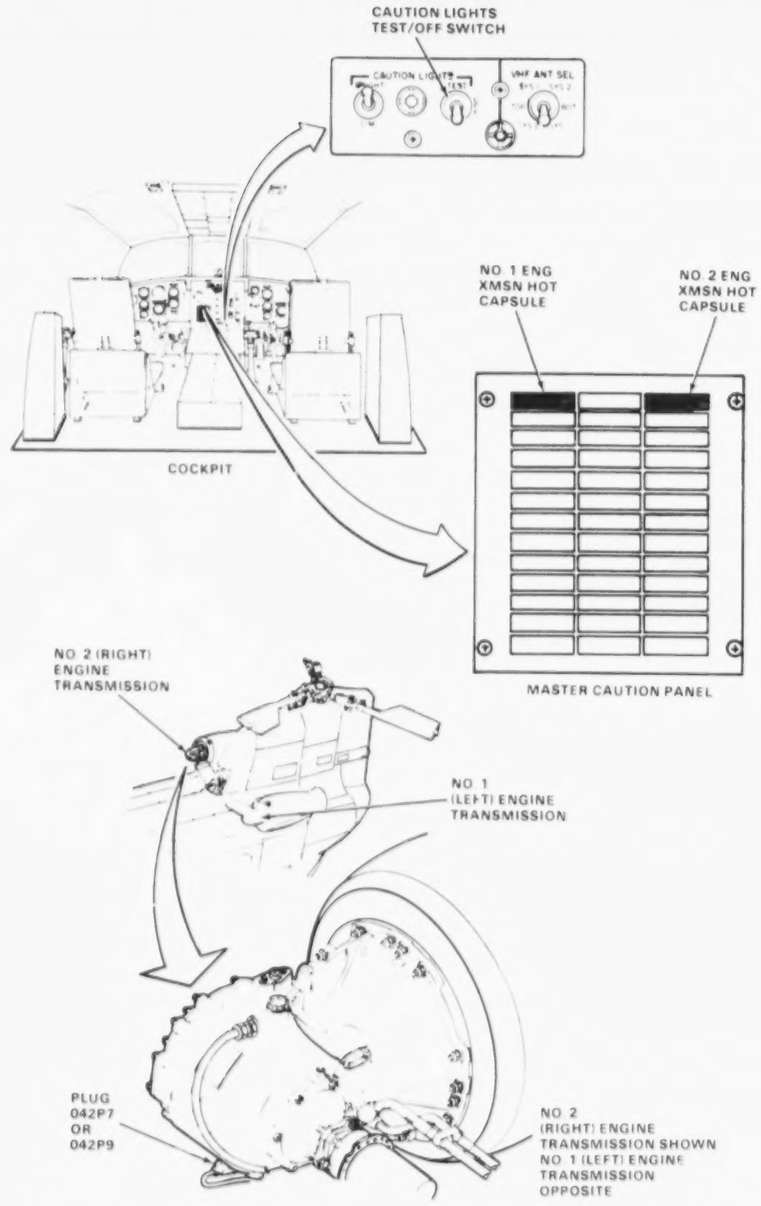
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off


CAUTION LIGHTS TEST/OFF SWITCH
COCKPIT
NO. 1 ENG XMSN HOT CAPSULE
NO. 2 ENG XMSN HOT CAPSULE
MASTER CAUTION PANEL
NO. 2 (RIGHT) ENGINE TRANSMISSION
NO. 1 (LEFT) ENGINE TRANSMISSION
PLUG 042P7 OR 042P9
NO. 2 (RIGHT) ENGINE TRANSMISSION SHOWN
NO. 1 (LEFT) ENGINE TRANSMISSION OPPOSITE

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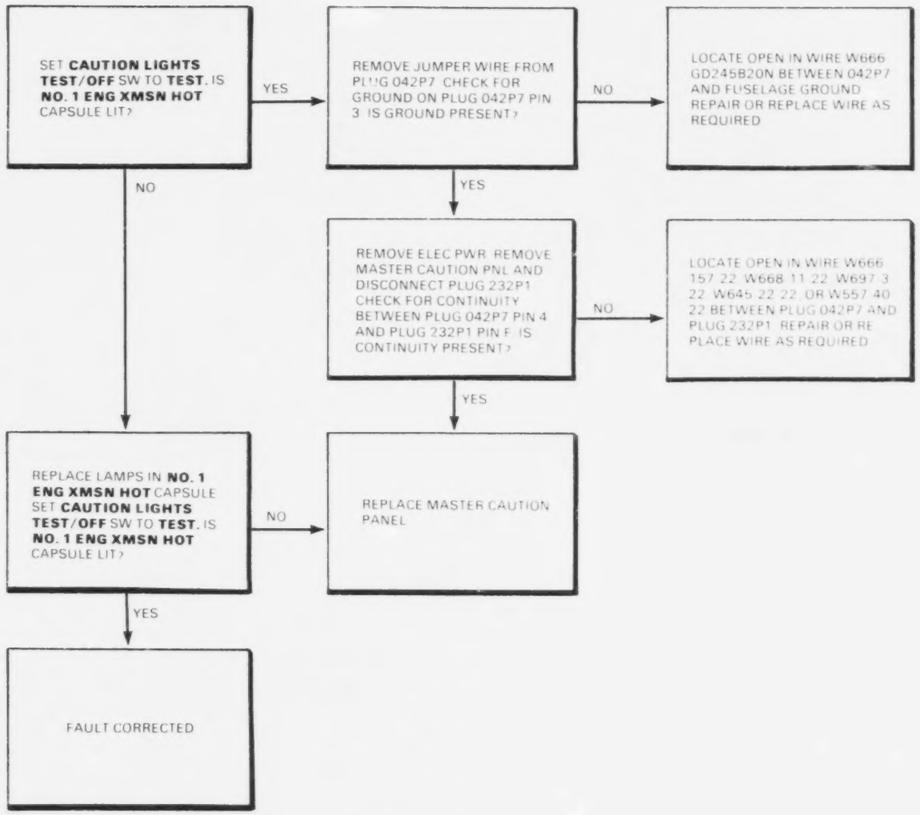
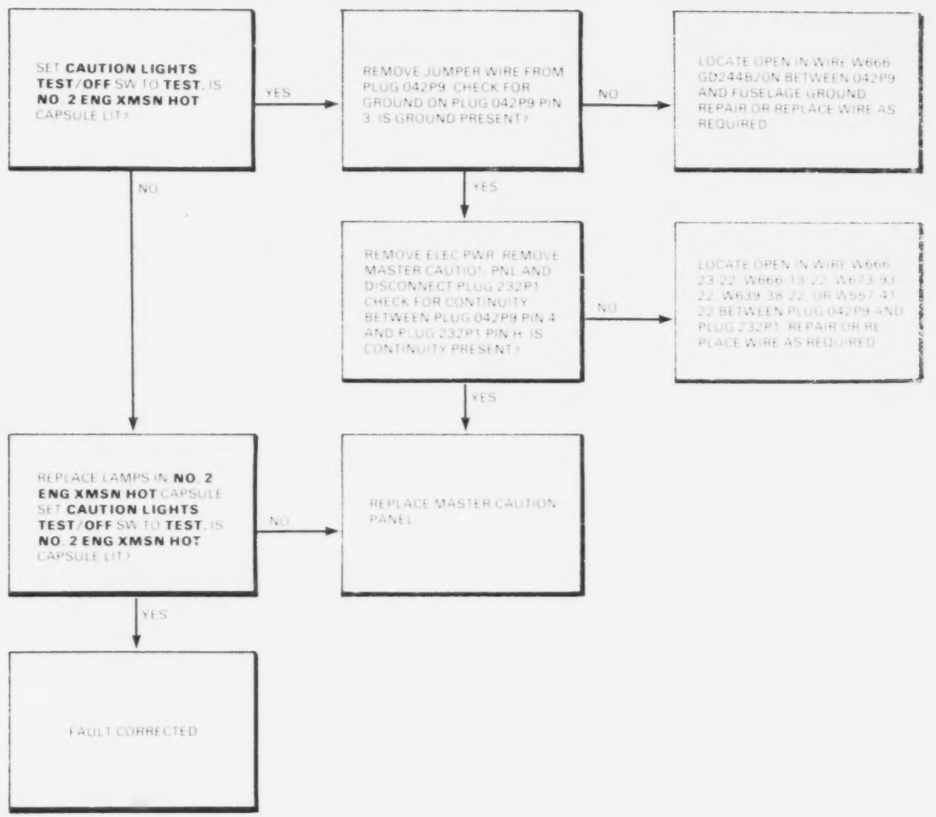
8-10.9 NO. 1 OR NO. 2 ENG XMSN HOT CAPSULE DOES NOT COME ON DURING TEST (Continued)

NO. 1 ENG XMSN HOT CAPSULE DOES NOT COME ON DURING TEST


SET CAUTION LIGHTS TEST/OFF SW TO TEST. IS NO. 1 ENG XMSN HOT CAPSULE LIT?
YES
REMOVE JUMPER WIRE FROM PLUG 042P7. CHECK FOR GROUND ON PLUG 042P7 PIN 3. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W666 GD245B20N BETWEEN 042P7 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE ELEC PWR. REMOVE MASTER CAUTION PNL AND DISCONNECT PLUG 232P1. CHECK FOR CONTINUITY BETWEEN PLUG 042P7 PIN 4 AND PLUG 232P1 PIN F. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W666 157 22, W668 11 22, W697 3 22, W645 22 22, OR W557 40 22 BETWEEN PLUG 042P7 AND PLUG 232P1. REPAIR OR REPLACE WIRE AS REQUIRED
YES
NO
REPLACE LAMPS IN NO. 1 ENG XMSN HOT CAPSULE SET CAUTION LIGHTS TEST/OFF SW TO TEST. IS NO. 1 ENG XMSN HOT CAPSULE LIT?
NO
REPLACE MASTER CAUTION PANEL
YES
FAULT CORRECTED

NO. 2 ENG XMSN HOT CAPSULE DOES NOT COME ON DURING TEST


SET CAUTION LIGHTS TEST/OFF SW TO TEST. IS NO. 2 ENG XMSN HOT CAPSULE LIT?
YES
REMOVE JUMPER WIRE FROM PLUG 042P9. CHECK FOR GROUND ON PLUG 042P9 PIN 3. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W666 GD244B20N BETWEEN 042P9 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE ELEC PWR. REMOVE MASTER CAUTION PNL AND DISCONNECT PLUG 232P1. CHECK FOR CONTINUITY BETWEEN PLUG 042P9 PIN 4 AND PLUG 232P1 PIN H. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W666 23 22, W666 13 22, W673 93 22, W639 38 22, OR W557 41 22 BETWEEN PLUG 042P9 AND PLUG 232P1. REPAIR OR REPLACE WIRE AS REQUIRED
YES
NO
REPLACE LAMPS IN NO. 2 ENG XMSN HOT CAPSULE SET CAUTION LIGHTS TEST/OFF SW TO TEST. IS NO. 2 ENG XMSN HOT CAPSULE LIT?
NO
REPLACE MASTER CAUTION PANEL
YES
FAULT CORRECTED

END OF TASK

8-10.10 XMSN OIL HOT CAPSULE LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

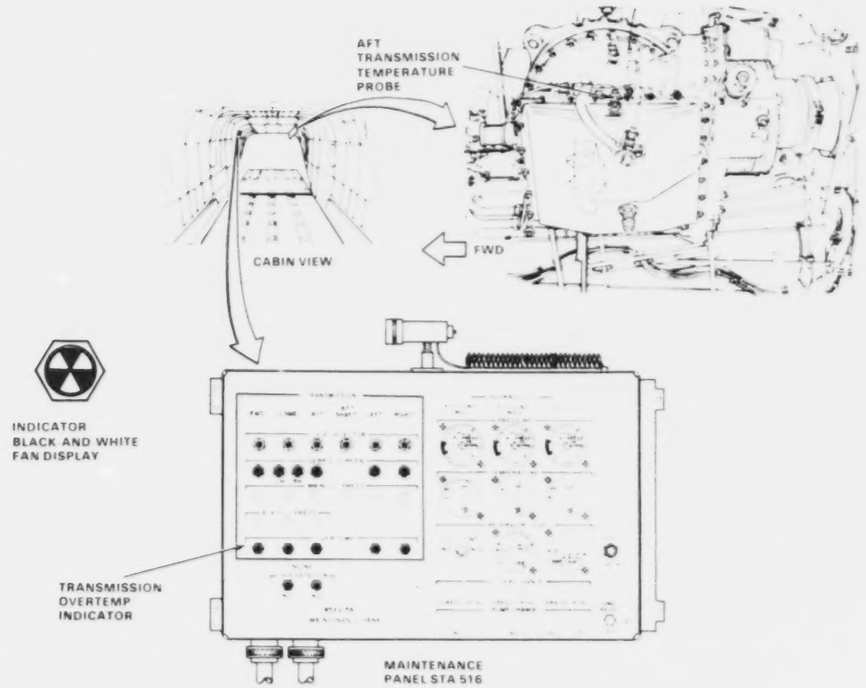
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

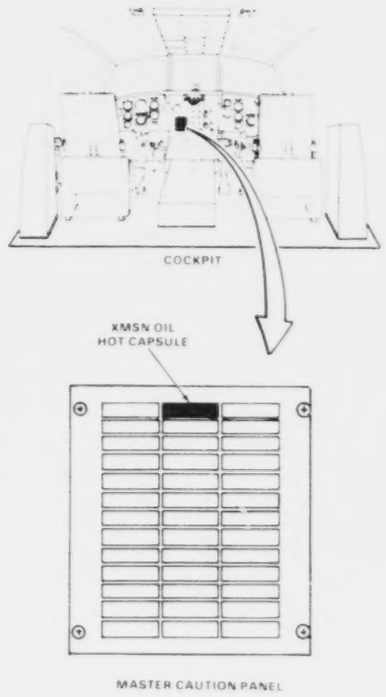
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

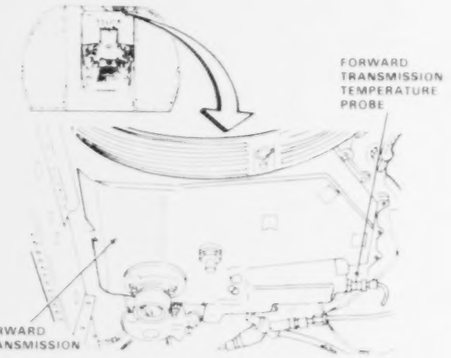
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off





COMBINING TRANSMISSION TEMPERATURE PROBE
COMBINING TRANSMISSION
NO. 1 (LEFT) ENGINE TRANSMISSION TEMPERATURE PROBE SHOWN
NO. 2 (RIGHT) ENGINE TRANSMISSION TEMPERATURE PROBE OPPOSITE



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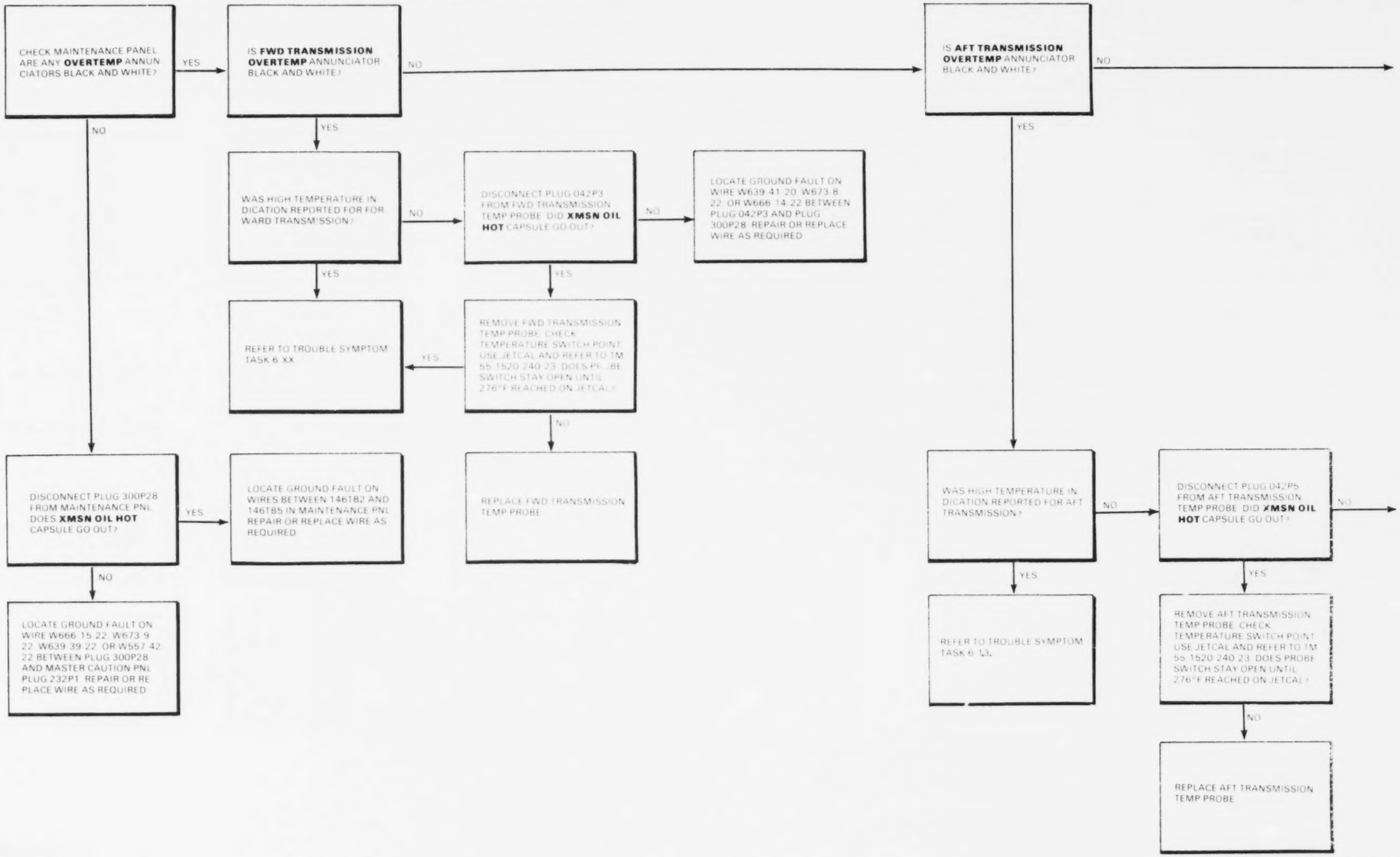
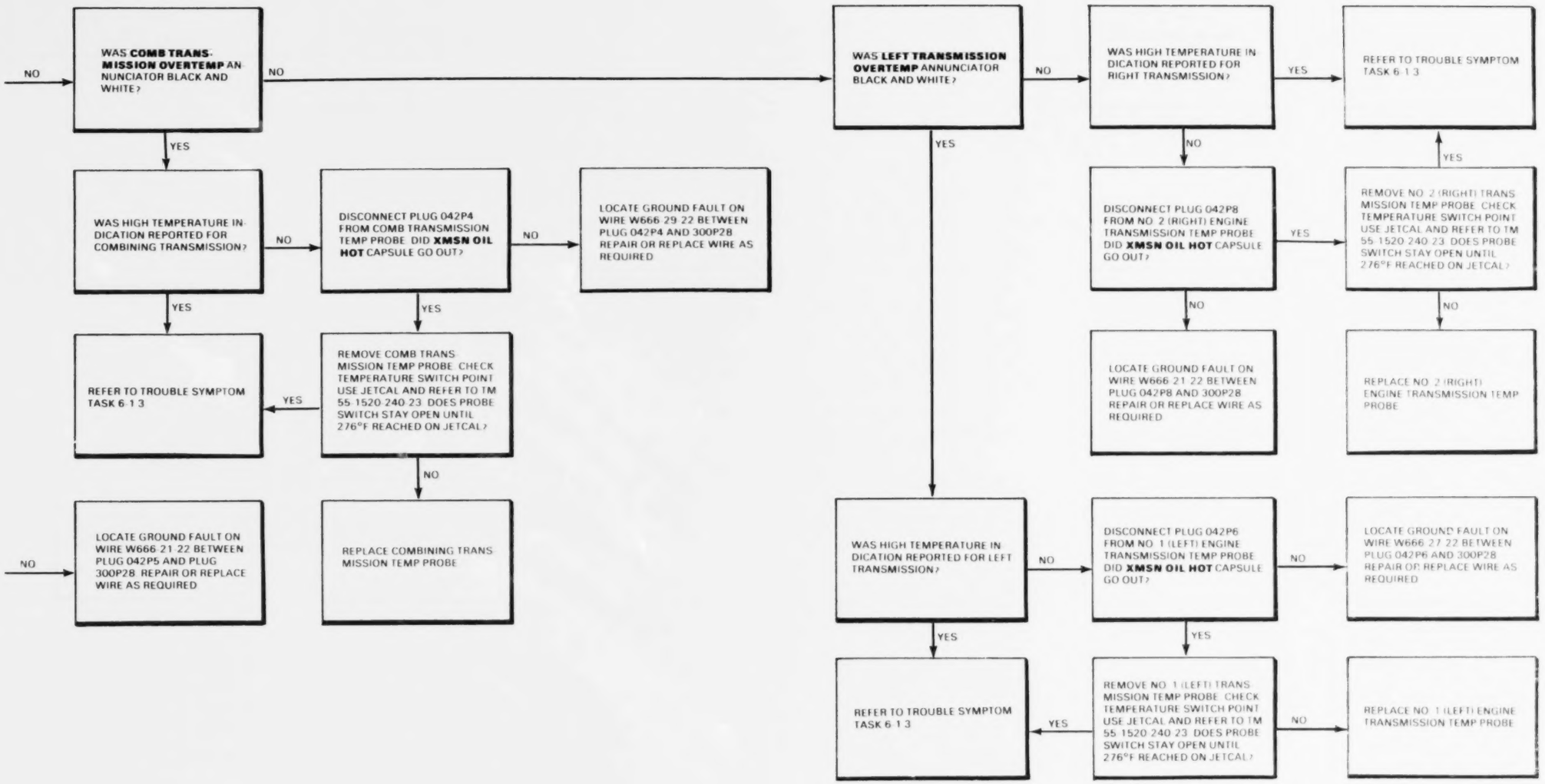
8-10.10 XMSN OIL HOT CAPSULE LIT (Continued)


CHECK MAINTENANCE PANEL ARE ANY **OVERTEMP** ANNUNCIATORS BLACK AND WHITE?
YES
IS **FWD TRANSMISSION OVERTEMP** ANNUNCIATOR BLACK AND WHITE?
NO
IS **AFT TRANSMISSION OVERTEMP** ANNUNCIATOR BLACK AND WHITE?
NO
YES
NO
WAS HIGH TEMPERATURE INDICATION REPORTED FOR FORWARD TRANSMISSION?
NO
DISCONNECT PLUG 042P3 FROM FWD TRANSMISSION TEMP PROBE. DID **XMSN OIL HOT** CAPSULE GO OUT?
NO
LOCATE GROUND FAULT ON WIRE W639 41 20, W673 8 22, OR W666 14 22 BETWEEN PLUG 042P3 AND PLUG 300P28. REPAIR OR REPLACE WIRE AS REQUIRED
YES
YES
REFER TO TROUBLE SYMPTOM TASK 6 XX
YES
REMOVE FWD TRANSMISSION TEMP PROBE. CHECK TEMPERATURE SWITCH POINT USE JETCAL AND REFER TO TM 55-1520-240-23. DOES PROBE SWITCH STAY OPEN UNTIL 276°F REACHED ON JETCAL?
NO
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL DOES **XMSN OIL HOT** CAPSULE GO OUT?
YES
LOCATE GROUND FAULT ON WIRES BETWEEN 146TB2 AND 146TB5 IN MAINTENANCE PNL REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE FWD TRANSMISSION TEMP PROBE
LOCATE GROUND FAULT ON WIRE W666 15 22, W673 9 22, W639 39 22, OR W557 42 22 BETWEEN PLUG 300P28 AND MASTER CAUTION PNL PLUG 232P1. REPAIR OR REPLACE WIRE AS REQUIRED
YES
WAS HIGH TEMPERATURE INDICATION REPORTED FOR AFT TRANSMISSION?
NO
DISCONNECT PLUG 042P5 FROM AFT TRANSMISSION TEMP PROBE. DID **XMSN OIL HOT** CAPSULE GO OUT?
NO
YES
REFER TO TROUBLE SYMPTOM TASK 6 13.
YES
REMOVE AFT TRANSMISSION TEMP PROBE. CHECK TEMPERATURE SWITCH POINT USE JETCAL AND REFER TO TM 55-1520-240-23. DOES PROBE SWITCH STAY OPEN UNTIL 276°F REACHED ON JETCAL?
NO
REPLACE AFT TRANSMISSION TEMP PROBE

GO TO NEXT PAGE

8-10.10 XMSN OIL HOT CAPSULE LIT (Continued)


NO
WAS COMB TRANSMISSION OVERTEMP ANNUNCIATOR BLACK AND WHITE?
NO
YES
WAS HIGH TEMPERATURE INDICATION REPORTED FOR COMBINING TRANSMISSION?
NO
DISCONNECT PLUG 042P4 FROM COMB TRANSMISSION TEMP PROBE DID XMSN OIL HOT CAPSULE GO OUT?
NO
LOCATE GROUND FAULT ON WIRE W666-29-22 BETWEEN PLUG 042P4 AND 300P28 REPAIR OR REPLACE WIRE AS REQUIRED
YES
YES
REFER TO TROUBLE SYMPTOM TASK 6-1-3
YES
REMOVE COMB TRANSMISSION TEMP PROBE CHECK TEMPERATURE SWITCH POINT USE JETCAL AND REFER TO TM 55-1520-240-23 DOES PROBE SWITCH STAY OPEN UNTIL 276°F REACHED ON JETCAL?
NO
NO
LOCATE GROUND FAULT ON WIRE W666-21-22 BETWEEN PLUG 042P5 AND PLUG 300P28 REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE COMBINING TRANSMISSION TEMP PROBE
WAS LEFT TRANSMISSION OVERTEMP ANNUNCIATOR BLACK AND WHITE?
NO
YES
WAS HIGH TEMPERATURE INDICATION REPORTED FOR RIGHT TRANSMISSION?
YES
REFER TO TROUBLE SYMPTOM TASK 6-1-3
NO
YES
DISCONNECT PLUG 042P8 FROM NO. 2 (RIGHT) ENGINE TRANSMISSION TEMP PROBE DID XMSN OIL HOT CAPSULE GO OUT?
YES
REMOVE NO. 2 (RIGHT) TRANSMISSION TEMP PROBE CHECK TEMPERATURE SWITCH POINT USE JETCAL AND REFER TO TM 55-1520-240-23 DOES PROBE SWITCH STAY OPEN UNTIL 276°F REACHED ON JETCAL?
NO
NO
LOCATE GROUND FAULT ON WIRE W666-21-22 BETWEEN PLUG 042P8 AND 300P28 REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE NO. 2 (RIGHT) ENGINE TRANSMISSION TEMP PROBE
YES
WAS HIGH TEMPERATURE INDICATION REPORTED FOR LEFT TRANSMISSION?
NO
DISCONNECT PLUG 042P6 FROM NO. 1 (LEFT) ENGINE TRANSMISSION TEMP PROBE DID XMSN OIL HOT CAPSULE GO OUT?
NO
LOCATE GROUND FAULT ON WIRE W666-27-22 BETWEEN PLUG 042P6 AND 300P28 REPAIR OR REPLACE WIRE AS REQUIRED
YES
YES
REFER TO TROUBLE SYMPTOM TASK 6-1-3
YES
REMOVE NO. 1 (LEFT) TRANSMISSION TEMP PROBE CHECK TEMPERATURE SWITCH POINT USE JETCAL AND REFER TO TM 55-1520-240-23 DOES PROBE SWITCH STAY OPEN UNTIL 276°F REACHED ON JETCAL?
NO
REPLACE NO. 1 (LEFT) ENGINE TRANSMISSION TEMP PROBE

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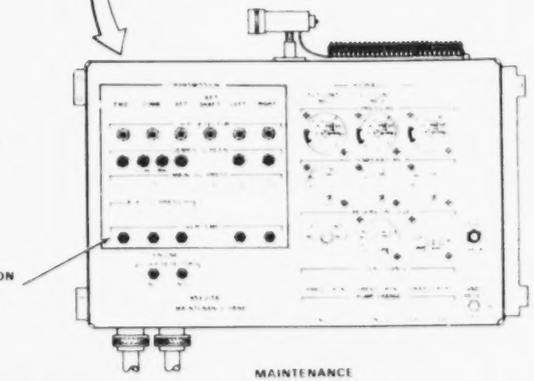
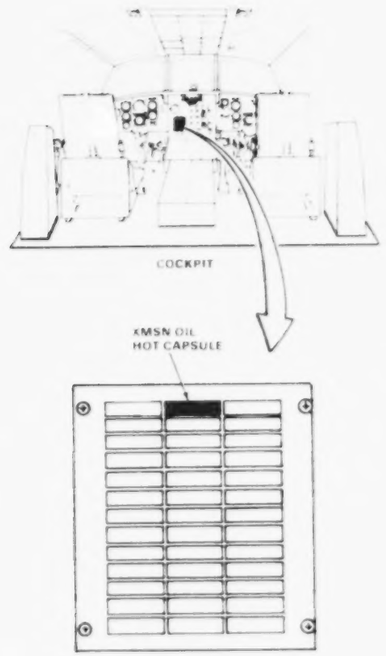
8-10.10 XMSN OIL HOT CAPSULE LIT (Continued)





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END OF TASK

8-10.11 XMSN OIL HOT CAPSULE LIT OR FWD TRANSMISSION OVERTEMP INDICATOR IS BLACK DURING TEST

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

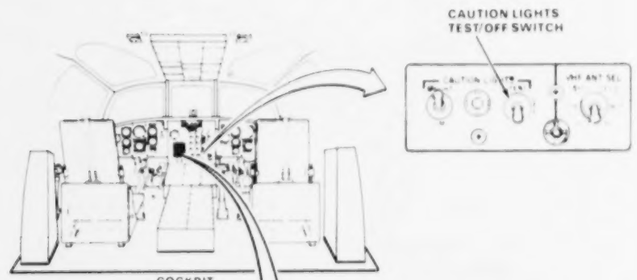
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



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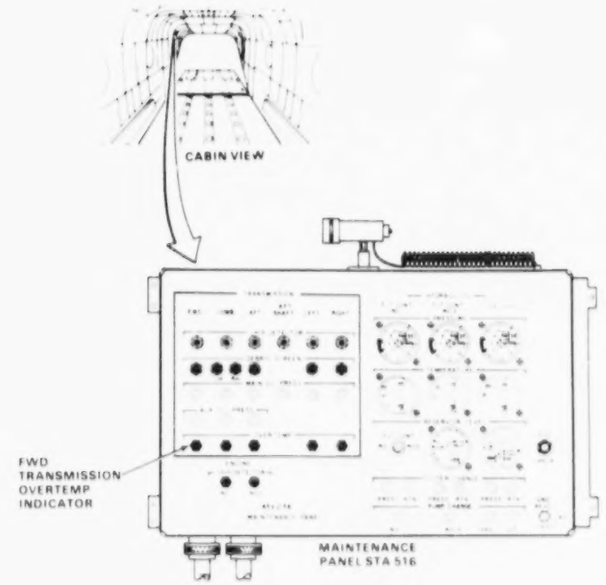

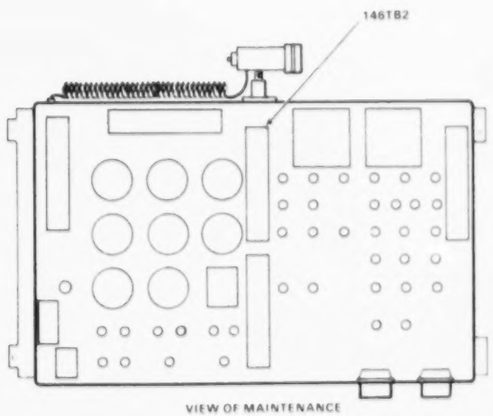

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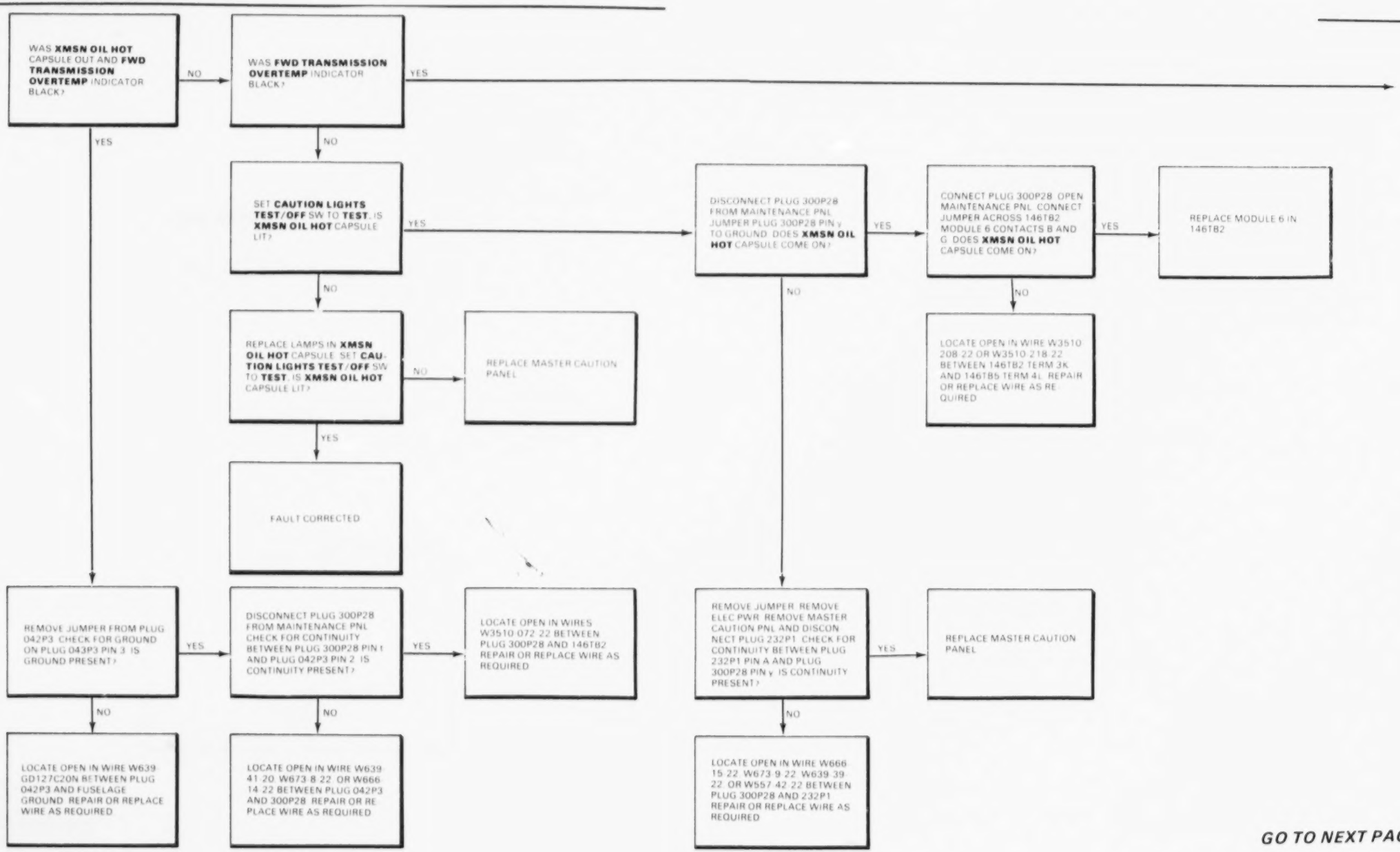
8-10.11 XMSN OIL HOT CAPSULE LIT OR FWD TRANSMISSION OVERTEMP INDICATOR IS BLACK DURING TEST (Continued)


WAS XMSN OIL HOT CAPSULE OUT AND FWD TRANSMISSION OVERTEMP INDICATOR BLACK?
NO
WAS FWD TRANSMISSION OVERTEMP INDICATOR BLACK?
YES
YES
NO
SET CAUTION LIGHTS TEST/OFF SW TO TEST. IS XMSN OIL HOT CAPSULE LIT?
YES
NO
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL JUMPER PLUG 300P28 PIN y TO GROUND. DOES XMSN OIL HOT CAPSULE COME ON?
YES
CONNECT PLUG 300P28. OPEN MAINTENANCE PNL. CONNECT JUMPER ACROSS 146TB2 MODULE 6 CONTACTS B AND G. DOES XMSN OIL HOT CAPSULE COME ON?
YES
REPLACE MODULE 6 IN 146TB2
NO
LOCATE OPEN IN WIRE W3510-208-22 OR W3510-218-22 BETWEEN 146TB2 TERM 3K AND 146TB5 TERM 4L. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE LAMPS IN XMSN OIL HOT CAPSULE. SET CAUTION LIGHTS TEST/OFF SW TO TEST. IS XMSN OIL HOT CAPSULE LIT?
NO
REPLACE MASTER CAUTION PANEL
YES
FAULT CORRECTED
REMOVE JUMPER FROM PLUG 042P3. CHECK FOR GROUND ON PLUG 043P3 PIN 3. IS GROUND PRESENT?
YES
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL. CHECK FOR CONTINUITY BETWEEN PLUG 300P28 PIN t AND PLUG 042P3 PIN 2. IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRES W3510-072-22 BETWEEN PLUG 300P28 AND 146TB2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W639-GD127C20N BETWEEN PLUG 042P3 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W639-41-20, W673-8-22, OR W666-14-22 BETWEEN PLUG 042P3 AND 300P28. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE JUMPER. REMOVE ELEC PWR. REMOVE MASTER CAUTION PNL AND DISCONNECT PLUG 232P1. CHECK FOR CONTINUITY BETWEEN PLUG 232P1 PIN A AND PLUG 300P28 PIN y. IS CONTINUITY PRESENT?
YES
REPLACE MASTER CAUTION PANEL
NO
LOCATE OPEN IN WIRE W666-15-22, W673-9-22, W639-39-22, OR W557-42-22 BETWEEN PLUG 300P28 AND 232P1. REPAIR OR REPLACE WIRE AS REQUIRED

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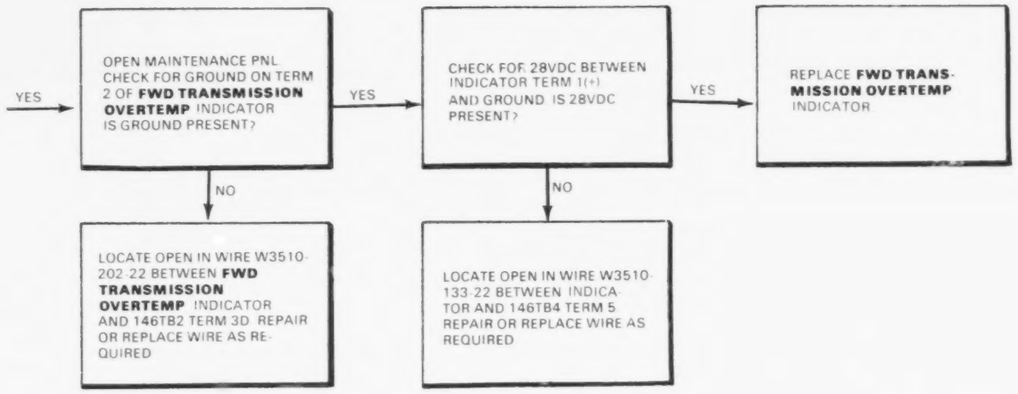
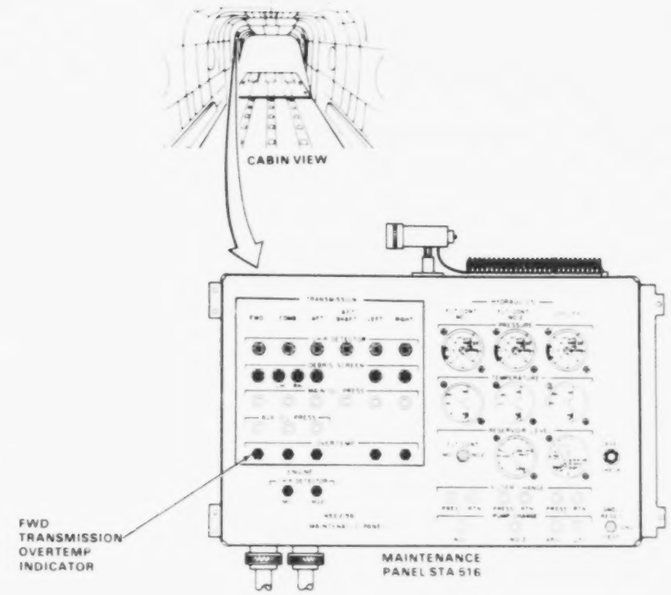
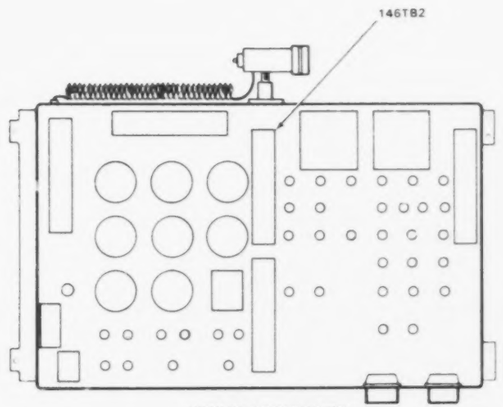
8-10.11 XMSN OIL HOT CAPSULE LIT OR FWD TRANSMISSION OVERTEMP INDICATOR IS BLACK DURING TEST (Continued)


YES
OPEN MAINTENANCE PNL CHECK FOR GROUND ON TERM 2 OF **FWD TRANSMISSION OVERTEMP** INDICATOR IS GROUND PRESENT?
YES
CHECK FOR 28VDC BETWEEN INDICATOR TERM 1(+) AND GROUND IS 28VDC PRESENT?
YES
REPLACE **FWD TRANSMISSION OVERTEMP** INDICATOR
NO
LOCATE OPEN IN WIRE W3510-202-22 BETWEEN **FWD TRANSMISSION OVERTEMP** INDICATOR AND 146TB2 TERM 3D. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W3510-133-22 BETWEEN INDICATOR AND 146TB4 TERM 5. REPAIR OR REPLACE WIRE AS REQUIRED





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END OF TASK

8-10.12 XMSN OIL HOT CAPSULE LIT OR AFT TRANSMISSION OVERTEMP INDICATOR IS BLACK DURING TEST

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

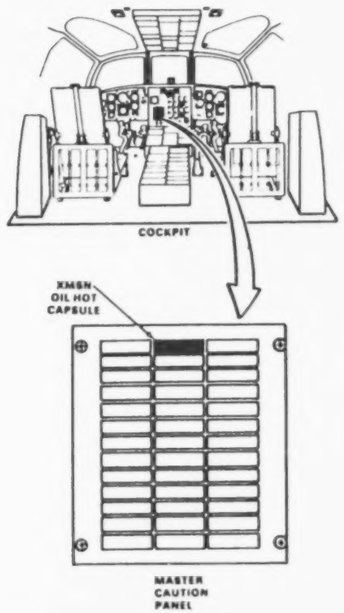
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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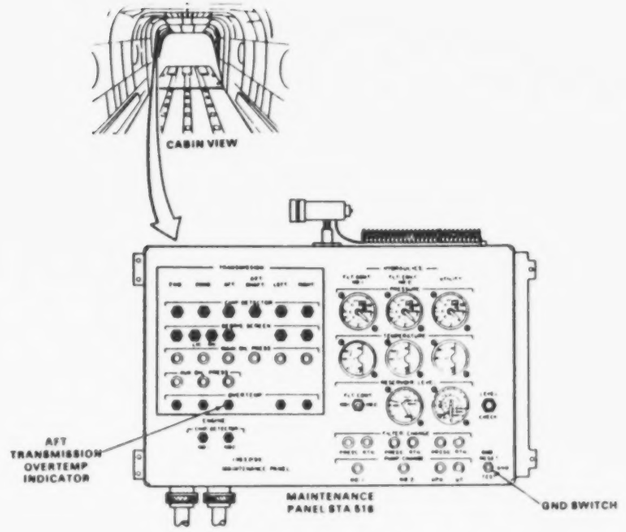

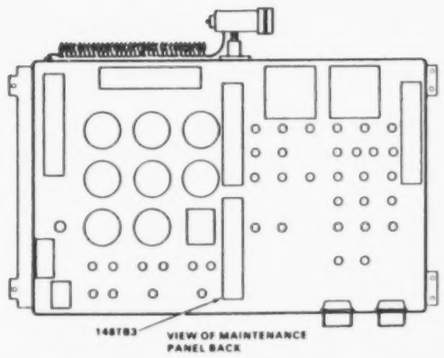

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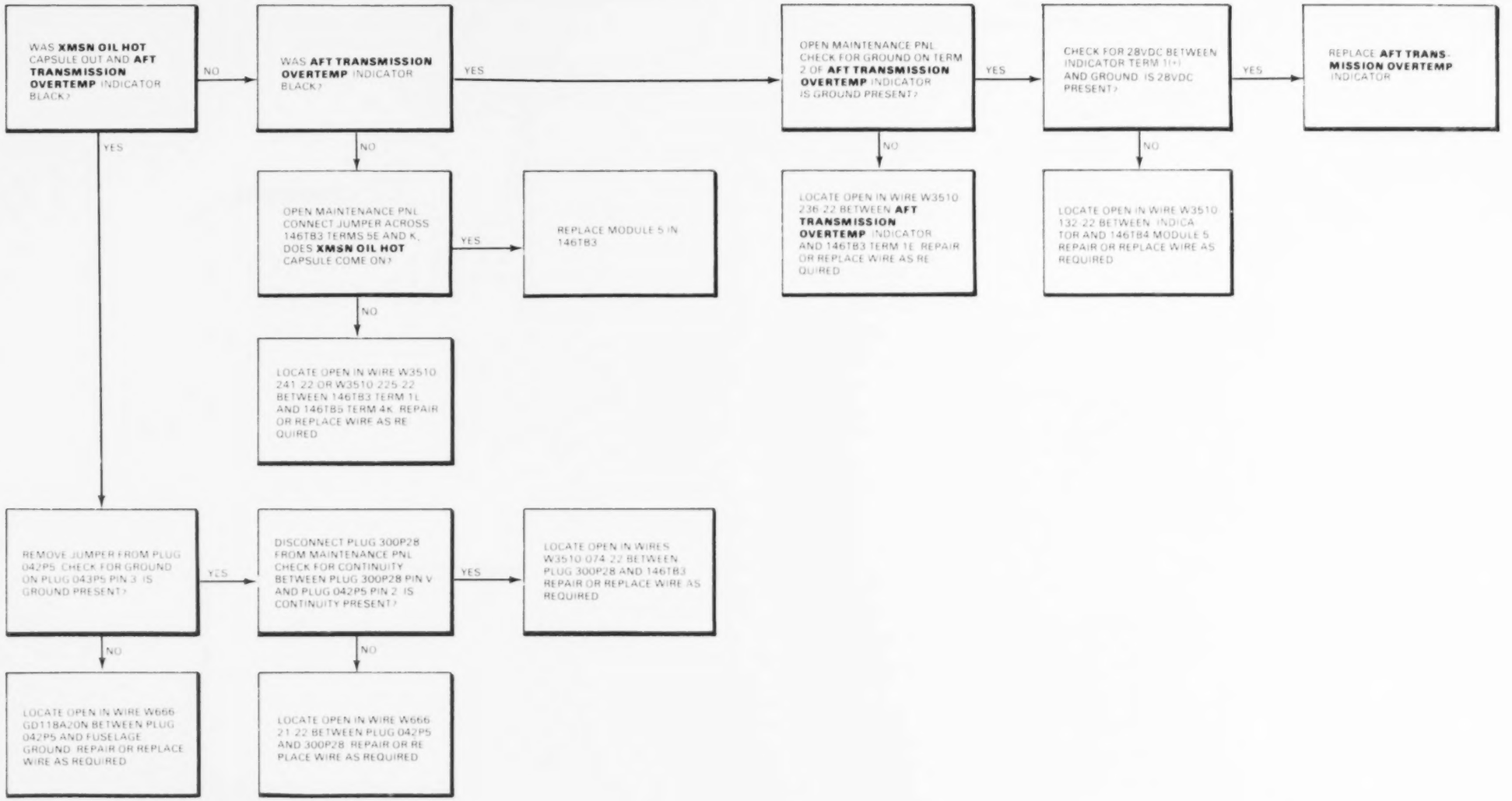
8-10.12 XMSN OIL HOT CAPSULE LIT OR AFT TRANSMISSION OVERTEMP INDICATOR IS BLACK DURING TEST (Continued)


WAS **XMSN OIL HOT** CAPSULE OUT AND **AFT TRANSMISSION OVERTEMP** INDICATOR BLACK?
NO
WAS **AFT TRANSMISSION OVERTEMP** INDICATOR BLACK?
YES
OPEN MAINTENANCE PNL CHECK FOR GROUND ON TERM 2 OF **AFT TRANSMISSION OVERTEMP** INDICATOR IS GROUND PRESENT?
YES
CHECK FOR 28VDC BETWEEN INDICATOR TERM 1(+) AND GROUND. IS 28VDC PRESENT?
YES
REPLACE **AFT TRANSMISSION OVERTEMP** INDICATOR
NO
LOCATE OPEN IN WIRE W3510-236-22 BETWEEN **AFT TRANSMISSION OVERTEMP** INDICATOR AND 146TB3 TERM 1E. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W3510-132-22 BETWEEN INDICATOR AND 146TB4 MODULE 5. REPAIR OR REPLACE WIRE AS REQUIRED
YES
OPEN MAINTENANCE PNL CONNECT JUMPER ACROSS 146TB3 TERMS 5E AND K. DOES **XMSN OIL HOT** CAPSULE COME ON?
YES
REPLACE MODULE 5 IN 146TB3
NO
LOCATE OPEN IN WIRE W3510-241-22 OR W3510-225-22 BETWEEN 146TB3 TERM 1L AND 146TB5 TERM 4K. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE JUMPER FROM PLUG 042P5. CHECK FOR GROUND ON PLUG 043P5 PIN 3. IS GROUND PRESENT?
YES
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL CHECK FOR CONTINUITY BETWEEN PLUG 300P28 PIN V AND PLUG 042P5 PIN 2. IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRES W3510-074-22 BETWEEN PLUG 300P28 AND 146TB3. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W666-GD118A20N BETWEEN PLUG 042P5 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W666-21-22 BETWEEN PLUG 042P5 AND 300P28. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-10.13 XMSN OIL HOT CAPSULE LIT OR COMB TRANSMISSION OVERTEMP INDICATOR IS BLACK DURING TEST

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

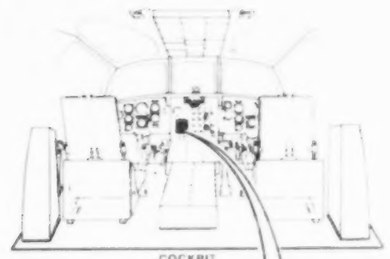
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

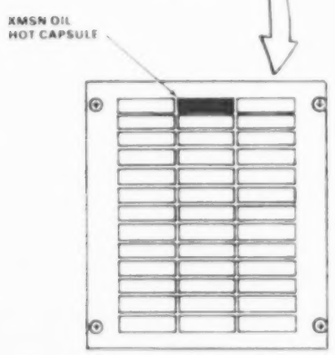
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off





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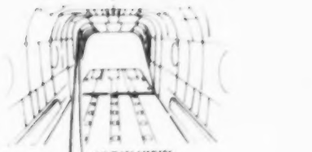

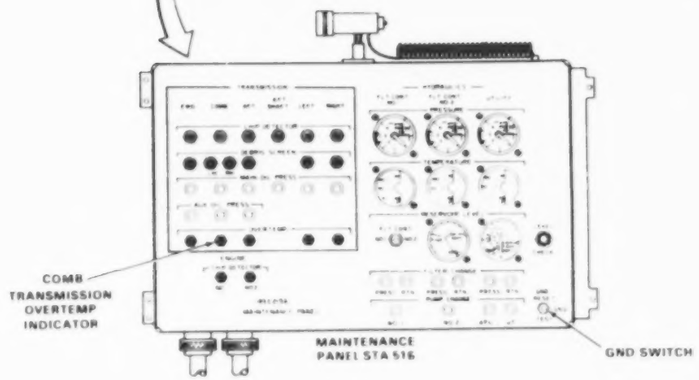

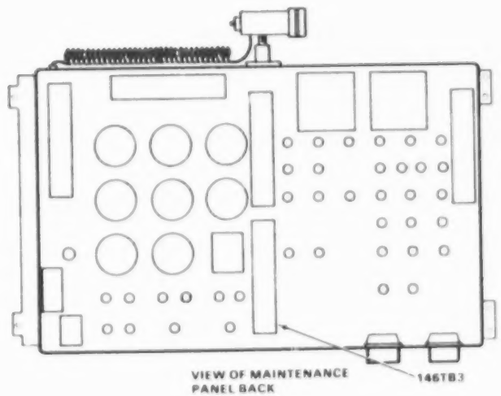

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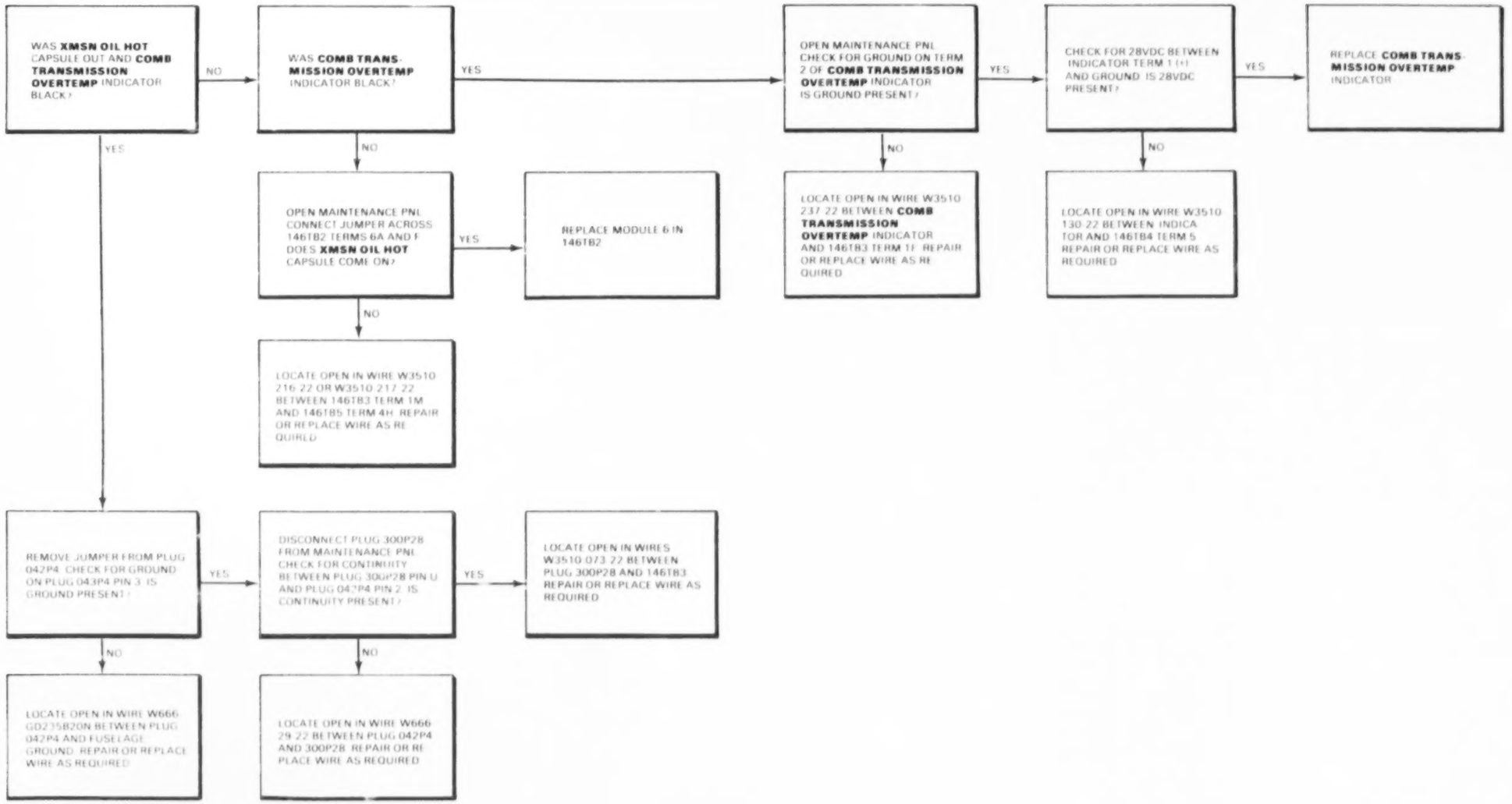
8-10.13 XMSN OIL HOT CAPSULE LIT OR COMB TRANSMISSION OVERTEMP INDICATOR IS BLACK DURING TEST (Continued)


WAS **XMSN OIL HOT** CAPSULE OUT AND **COMB TRANSMISSION OVERTEMP** INDICATOR BLACK?
NO
WAS **COMB TRANSMISSION OVERTEMP** INDICATOR BLACK?
YES
OPEN MAINTENANCE PNL CHECK FOR GROUND ON TERM 2 OF **COMB TRANSMISSION OVERTEMP** INDICATOR IS GROUND PRESENT?
YES
CHECK FOR 28VDC BETWEEN INDICATOR TERM 1 (+) AND GROUND IS 28VDC PRESENT?
YES
REPLACE **COMB TRANSMISSION OVERTEMP** INDICATOR
NO
LOCATE OPEN IN WIRE W3510 130 22 BETWEEN INDICATOR AND 146TB4 TERM 5 REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W3510 237 22 BETWEEN **COMB TRANSMISSION OVERTEMP** INDICATOR AND 146TB3 TERM 1F REPAIR OR REPLACE WIRE AS REQUIRED
YES
OPEN MAINTENANCE PNL CONNECT JUMPER ACROSS 146TB2 TERMS 6A AND F DOES **XMSN OIL HOT** CAPSULE COME ON?
YES
REPLACE MODULE 6 IN 146TB2
NO
LOCATE OPEN IN WIRE W3510 216 22 OR W3510 217 22 BETWEEN 146TB3 TERM 1M AND 146TB5 TERM 4H REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE JUMPER FROM PLUG 042P4 CHECK FOR GROUND ON PLUG 043P4 PIN 3 IS GROUND PRESENT?
YES
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL CHECK FOR CONTINUITY BETWEEN PLUG 300P28 PIN U AND PLUG 042P4 PIN 2 IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRES W3510 073 22 BETWEEN PLUG 300P28 AND 146TB3 REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W666 GD235B20N BETWEEN PLUG 042P4 AND FUSELAGE GROUND REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W666 29 22 BETWEEN PLUG 042P4 AND 300P28 REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-10.14 XMSN OIL HOT CAPSULE LIT OR LEFT TRANSMISSION OVERTEMP INDICATOR IS BLACK DURING TEST

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

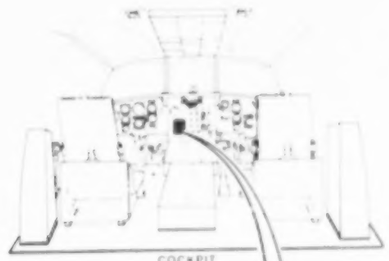
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



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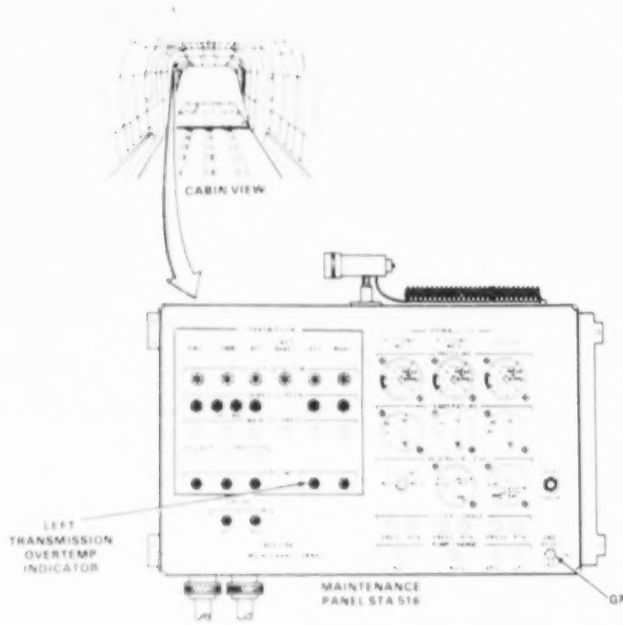

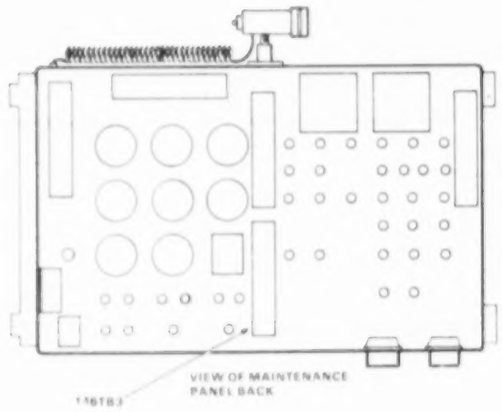

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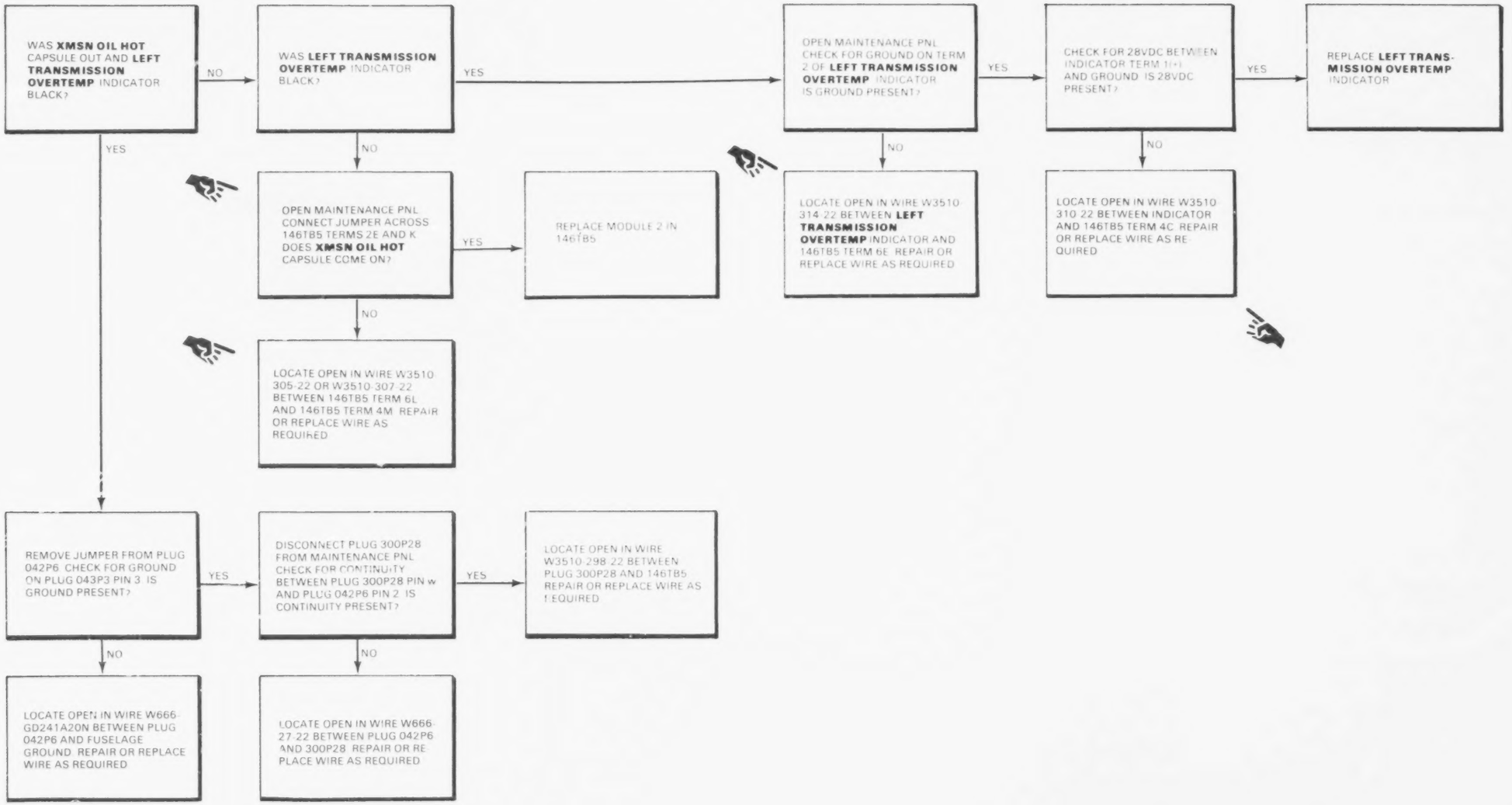
8-10.14 XMSN OIL HOT CAPSULE LIT OR LEFT TRANSMISSION OVERTEMP INDICATOR IS BLACK DURING TEST (Continued)


WAS XMSN OIL HOT CAPSULE OUT AND LEFT TRANSMISSION OVERTEMP INDICATOR BLACK?
NO
WAS LEFT TRANSMISSION OVERTEMP INDICATOR BLACK?
YES
OPEN MAINTENANCE PNL CHECK FOR GROUND ON TERM 2 OF LEFT TRANSMISSION OVERTEMP INDICATOR IS GROUND PRESENT?
YES
CHECK FOR 28VDC BETWEEN INDICATOR TERM 1(+) AND GROUND IS 28VDC PRESENT?
YES
REPLACE LEFT TRANSMISSION OVERTEMP INDICATOR
NO
LOCATE OPEN IN WIRE W3510-310-22 BETWEEN INDICATOR AND 146TB5 TERM 4C REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W3510-314-22 BETWEEN LEFT TRANSMISSION OVERTEMP INDICATOR AND 146TB5 TERM 6E REPAIR OR REPLACE WIRE AS REQUIRED
NO
OPEN MAINTENANCE PNL CONNECT JUMPER ACROSS 146TB5 TERMS 2E AND K DOES XMSN OIL HOT CAPSULE COME ON?
YES
REPLACE MODULE 2 IN 146TB5
NO
LOCATE OPEN IN WIRE W3510-305-22 OR W3510-307-22 BETWEEN 146TB5 TERM 6L AND 146TB5 TERM 4M REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE JUMPER FROM PLUG 042P6 CHECK FOR GROUND ON PLUG 043P3 PIN 3 IS GROUND PRESENT?
YES
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL CHECK FOR CONTINUITY BETWEEN PLUG 300P28 PIN w AND PLUG 042P6 PIN 2 IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRE W3510-298-22 BETWEEN PLUG 300P28 AND 146TB5 REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W666-GD241A20N BETWEEN PLUG 042P6 AND FUSELAGE GROUND REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W666-27-22 BETWEEN PLUG 042P6 AND 300P28 REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-10.15 XMSN OIL HOT CAPSULE LIT OR RIGHT TRANSMISSION OVERTEMP INDICATOR IS BLACK DURING TEST

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

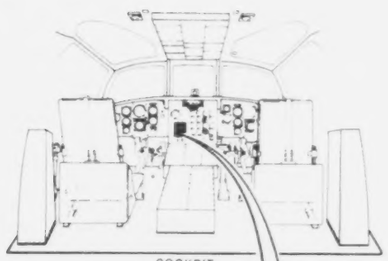
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



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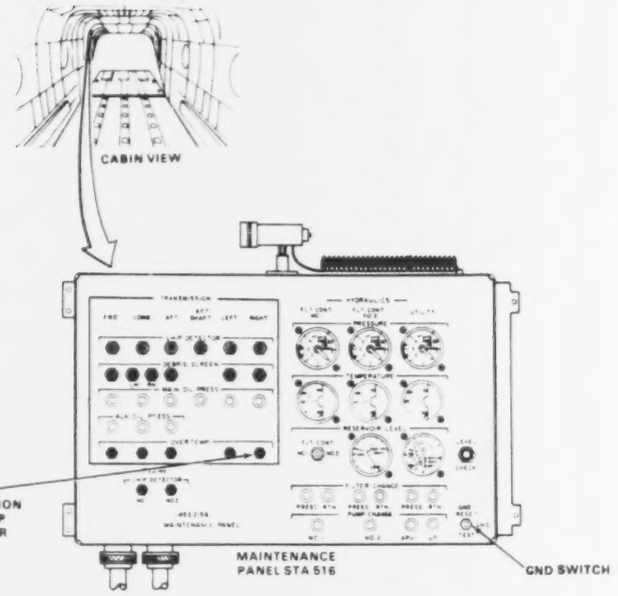

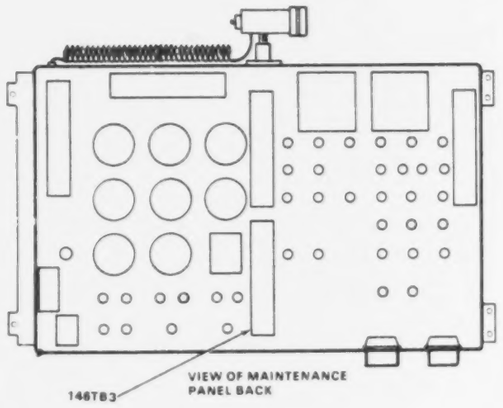

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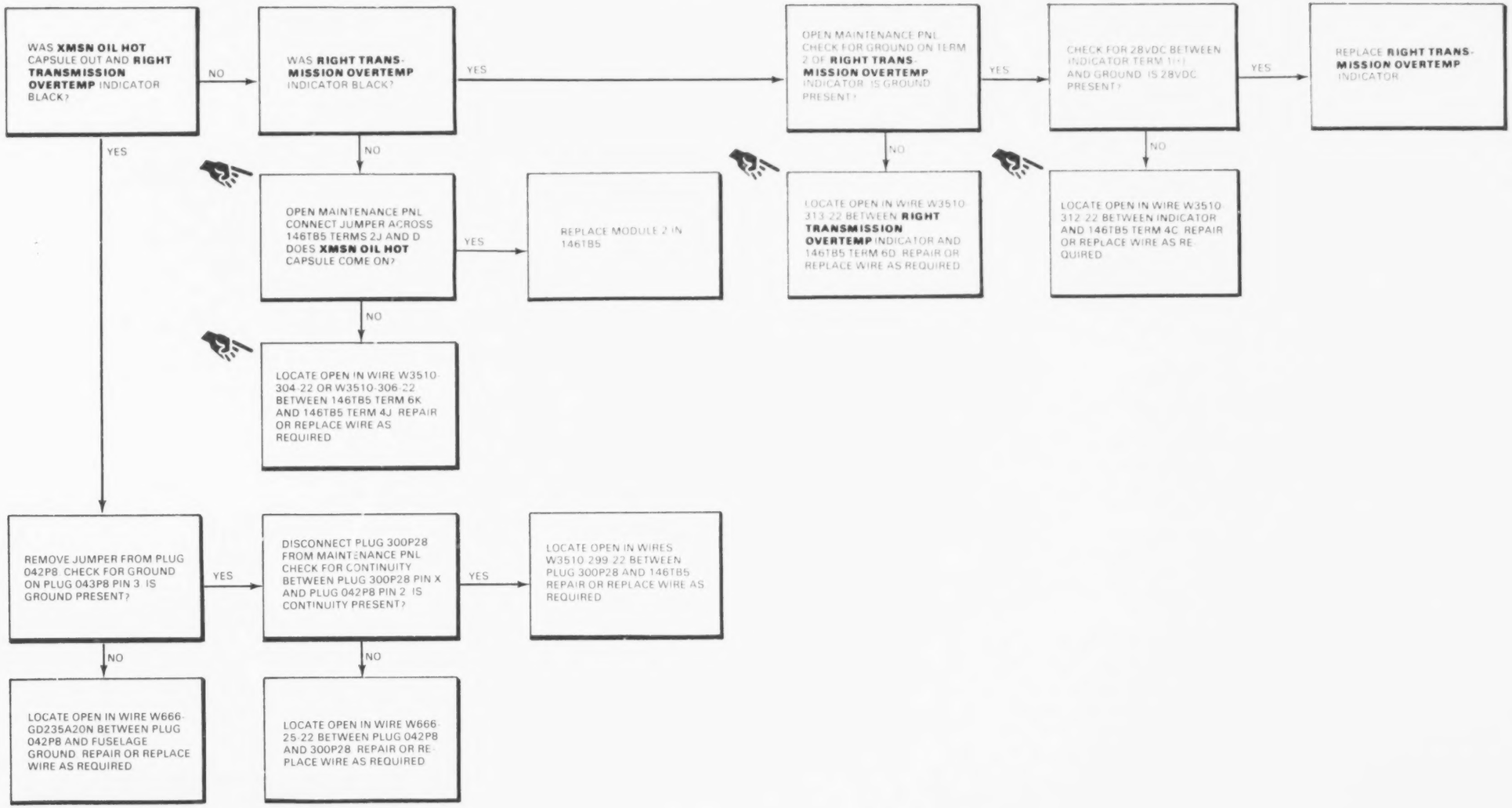
8-10.15 XMSN OIL HOT CAPSULE LIT OR RIGHT TRANSMISSION OVERTEMP INDICATOR IS BLACK DURING TEST (Continued)


WAS XMSN OIL HOT CAPSULE OUT AND RIGHT TRANSMISSION OVERTEMP INDICATOR BLACK?
NO
WAS RIGHT TRANSMISSION OVERTEMP INDICATOR BLACK?
YES
OPEN MAINTENANCE PNL CHECK FOR GROUND ON TERM 2 OF RIGHT TRANSMISSION OVERTEMP INDICATOR IS GROUND PRESENT?
YES
CHECK FOR 28VDC BETWEEN INDICATOR TERM 1(+) AND GROUND IS 28VDC PRESENT?
YES
REPLACE RIGHT TRANSMISSION OVERTEMP INDICATOR
NO
LOCATE OPEN IN WIRE W3510-313-22 BETWEEN RIGHT TRANSMISSION OVERTEMP INDICATOR AND 146TB5 TERM 6D. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W3510-312-22 BETWEEN INDICATOR AND 146TB5 TERM 4C. REPAIR OR REPLACE WIRE AS REQUIRED
NO
OPEN MAINTENANCE PNL CONNECT JUMPER ACROSS 146TB5 TERMS 2J AND D DOES XMSN OIL HOT CAPSULE COME ON?
YES
REPLACE MODULE 2 IN 146TB5
NO
LOCATE OPEN IN WIRE W3510-304-22 OR W3510-306-22 BETWEEN 146TB5 TERM 6K AND 146TB5 TERM 4J. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE JUMPER FROM PLUG 042P8. CHECK FOR GROUND ON PLUG 043P8 PIN 3. IS GROUND PRESENT?
YES
DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL CHECK FOR CONTINUITY BETWEEN PLUG 300P28 PIN X AND PLUG 042P8 PIN 2. IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRES W3510-299-22 BETWEEN PLUG 300P28 AND 146TB5. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W666-GD235A20N BETWEEN PLUG 042P8 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W666-25-22 BETWEEN PLUG 042P8 AND 300P28. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-10.16 TRANSMISSION OVERTEMP INDICATORS DO NOT RESET

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

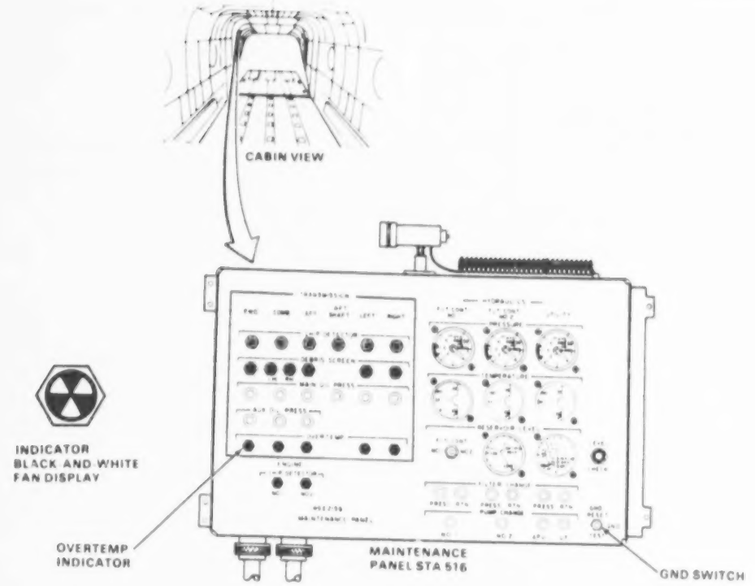
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

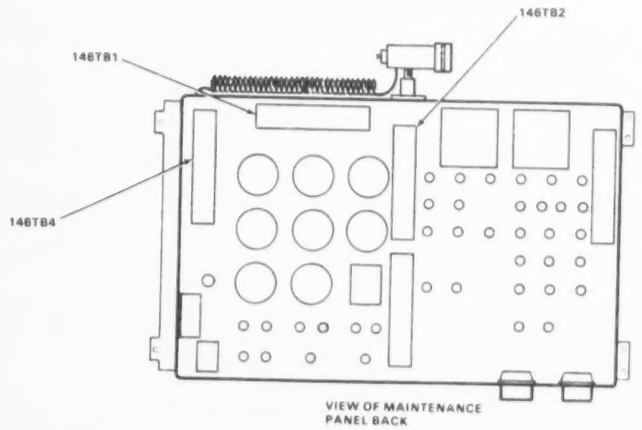
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off





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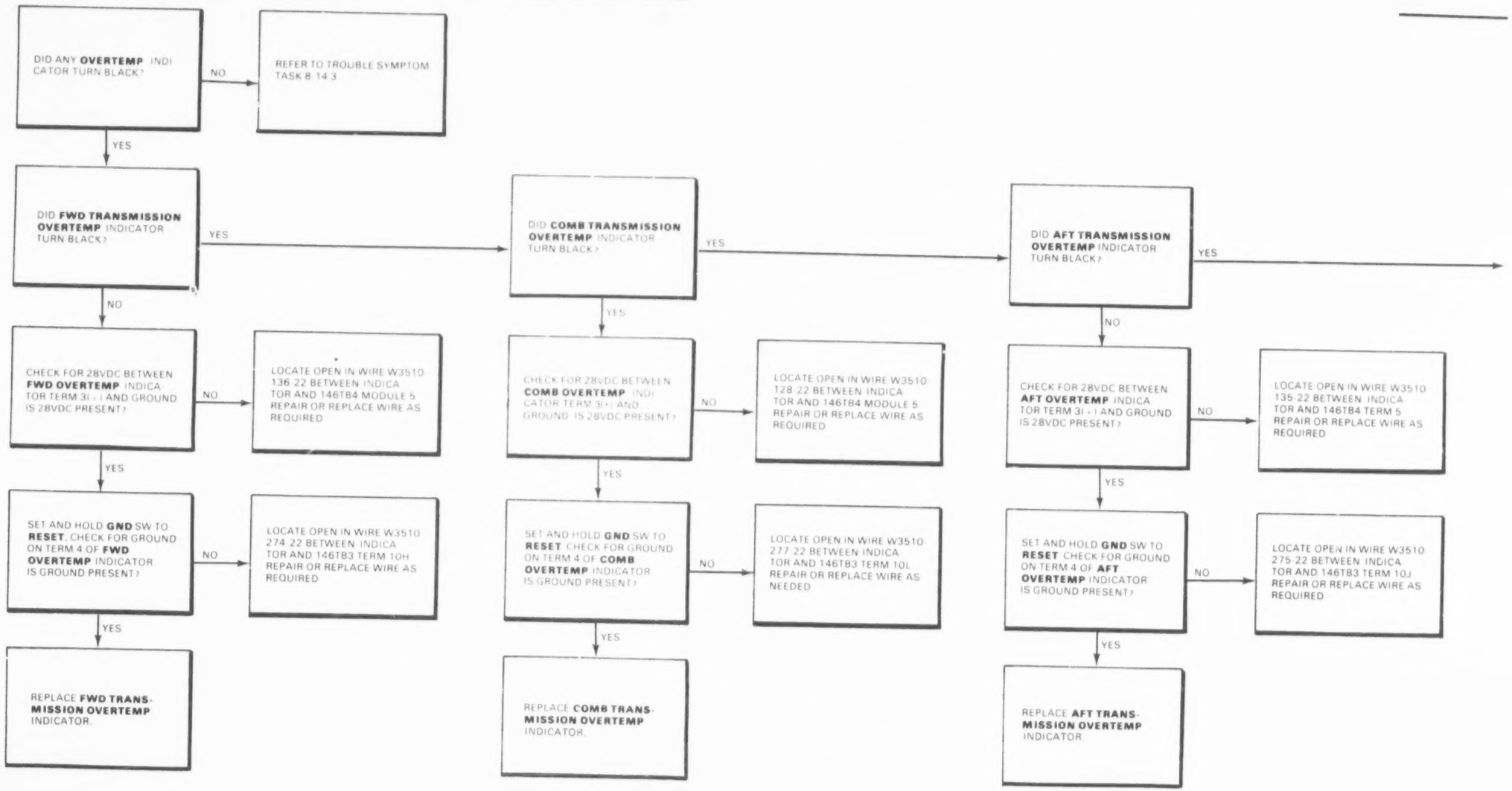
8-10.16 TRANSMISSION OVERTEMP INDICATORS DO NOT RESET (Continued)


DID ANY **OVERTEMP** INDICATOR TURN BLACK?
NO
REFER TO TROUBLE SYMPTOM TASK 8-14.3
YES
DID **FWD TRANSMISSION OVERTEMP** INDICATOR TURN BLACK?
YES
NO
CHECK FOR 28VDC BETWEEN **FWD OVERTEMP** INDICATOR TERM 3(+) AND GROUND IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W3510 136-22 BETWEEN INDICATOR AND 146T84 MODULE 5 REPAIR OR REPLACE WIRE AS REQUIRED
YES
SET AND HOLD **GND** SW TO **RESET**. CHECK FOR GROUND ON TERM 4 OF **FWD OVERTEMP** INDICATOR IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W3510 274-22 BETWEEN INDICATOR AND 146T83 TERM 10H REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE **FWD TRANSMISSION OVERTEMP** INDICATOR.
DID **COMB TRANSMISSION OVERTEMP** INDICATOR TURN BLACK?
YES
YES
CHECK FOR 28VDC BETWEEN **COMB OVERTEMP** INDICATOR TERM 3(+) AND GROUND IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W3510 128-22 BETWEEN INDICATOR AND 146T84 MODULE 5 REPAIR OR REPLACE WIRE AS REQUIRED
YES
SET AND HOLD **GND** SW TO **RESET**. CHECK FOR GROUND ON TERM 4 OF **COMB OVERTEMP** INDICATOR IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W3510 277-22 BETWEEN INDICATOR AND 146T83 TERM 10L REPAIR OR REPLACE WIRE AS NEEDED
YES
REPLACE **COMB TRANSMISSION OVERTEMP** INDICATOR.
DID **AFT TRANSMISSION OVERTEMP** INDICATOR TURN BLACK?
YES
NO
CHECK FOR 28VDC BETWEEN **AFT OVERTEMP** INDICATOR TERM 3(+) AND GROUND IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W3510 135-22 BETWEEN INDICATOR AND 146T84 TERM 5 REPAIR OR REPLACE WIRE AS REQUIRED
YES
SET AND HOLD **GND** SW TO **RESET**. CHECK FOR GROUND ON TERM 4 OF **AFT OVERTEMP** INDICATOR IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W3510 275-22 BETWEEN INDICATOR AND 146T83 TERM 10J REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE **AFT TRANSMISSION OVERTEMP** INDICATOR.

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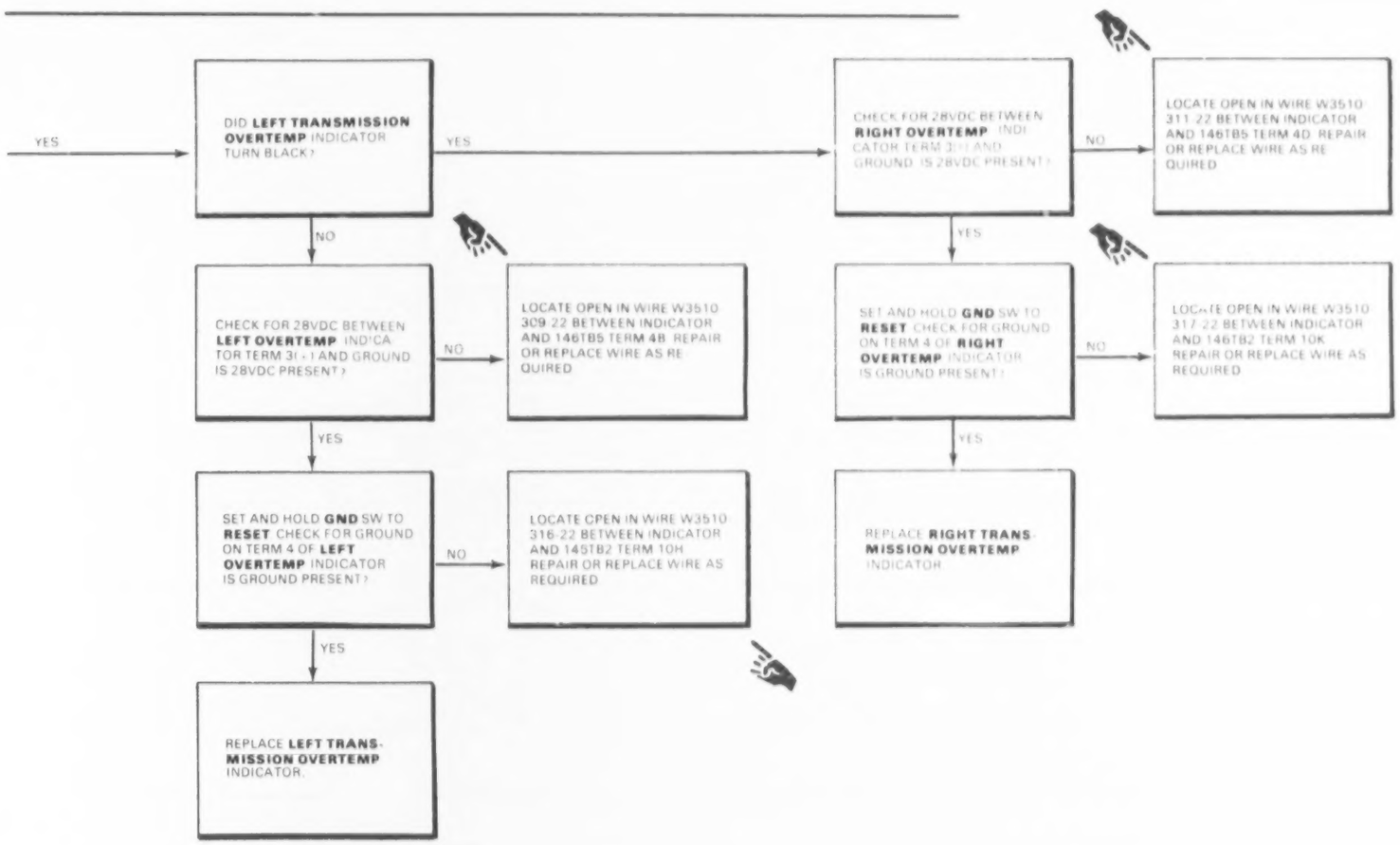
8-10.16 TRANSMISSION OVERTEMP INDICATORS DO NOT RESET (Continued)


YES
DID **LEFT TRANSMISSION OVERTEMP** INDICATOR TURN BLACK?
YES
NO
CHECK FOR 28VDC BETWEEN **LEFT OVERTEMP** INDICATOR TERM 3(+) AND GROUND IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W3510 309-22 BETWEEN INDICATOR AND 146TB5 TERM 4B. REPAIR OR REPLACE WIRE AS REQUIRED
YES
SET AND HOLD **GND** SW TO **RESET**. CHECK FOR GROUND ON TERM 4 OF **LEFT OVERTEMP** INDICATOR IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W3510 316-22 BETWEEN INDICATOR AND 145TB2 TERM 10H. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE **LEFT TRANSMISSION OVERTEMP** INDICATOR.
CHECK FOR 28VDC BETWEEN **RIGHT OVERTEMP** INDICATOR TERM 3(+) AND GROUND IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W3510 311-22 BETWEEN INDICATOR AND 146TB5 TERM 4D. REPAIR OR REPLACE WIRE AS REQUIRED
YES
SET AND HOLD **GND** SW TO **RESET**. CHECK FOR GROUND ON TERM 4 OF **RIGHT OVERTEMP** INDICATOR IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W3510 317-22 BETWEEN INDICATOR AND 146TB2 TERM 10K. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE **RIGHT TRANSMISSION OVERTEMP** INDICATOR.

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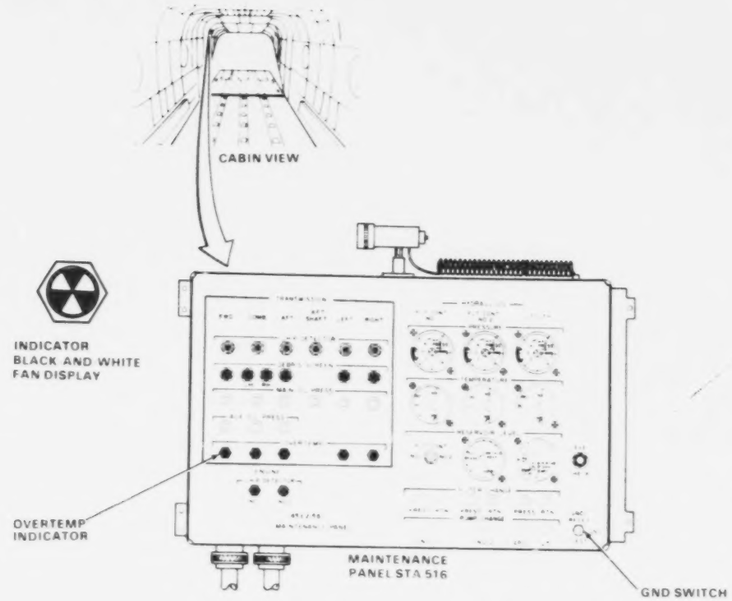
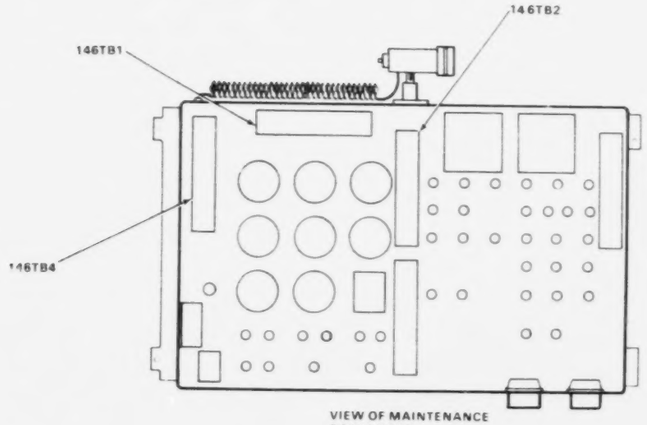
8-10.16 TRANSMISSION OVERTEMP INDICATORS DO NOT RESET (Continued)





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END OF TASK

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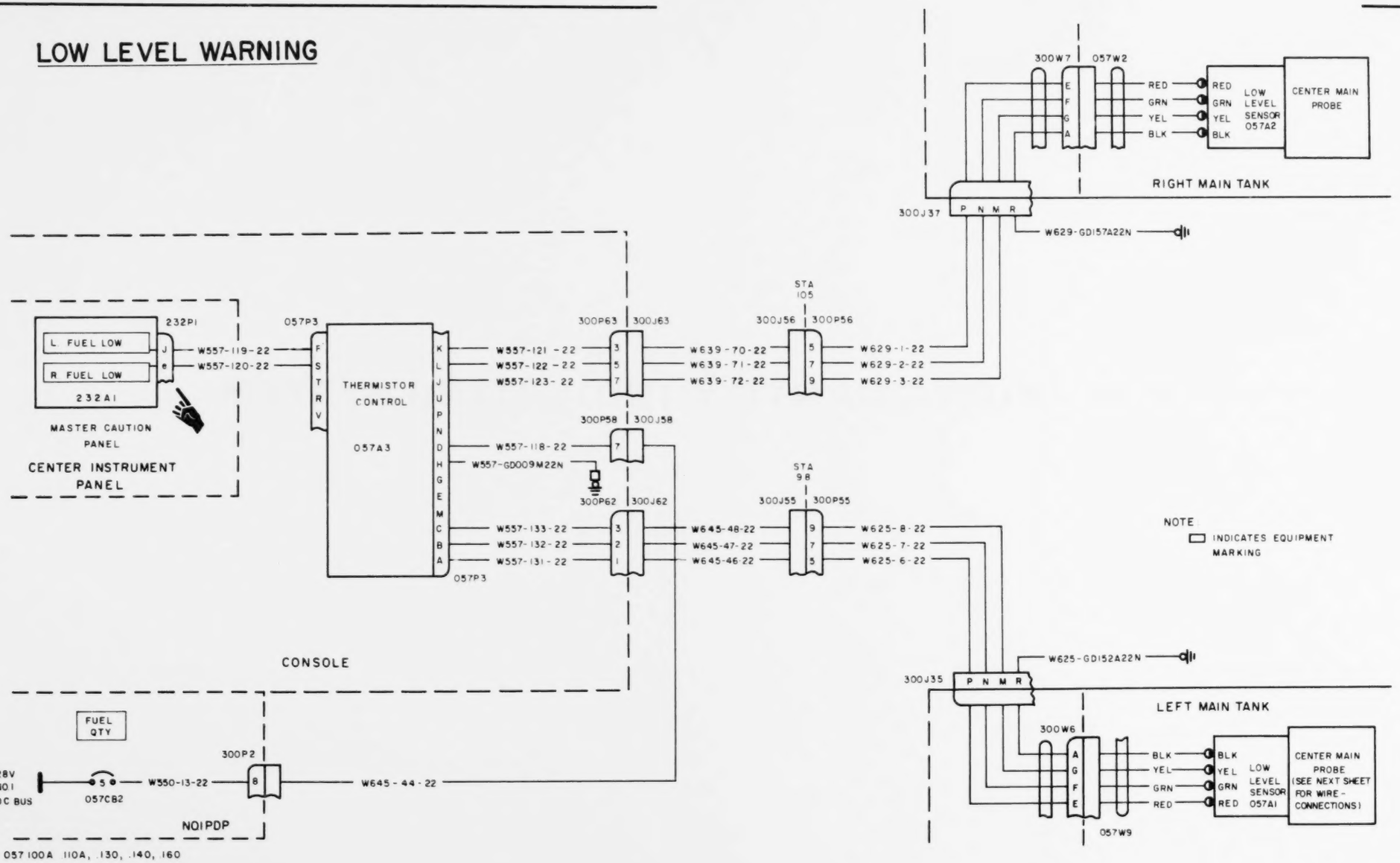
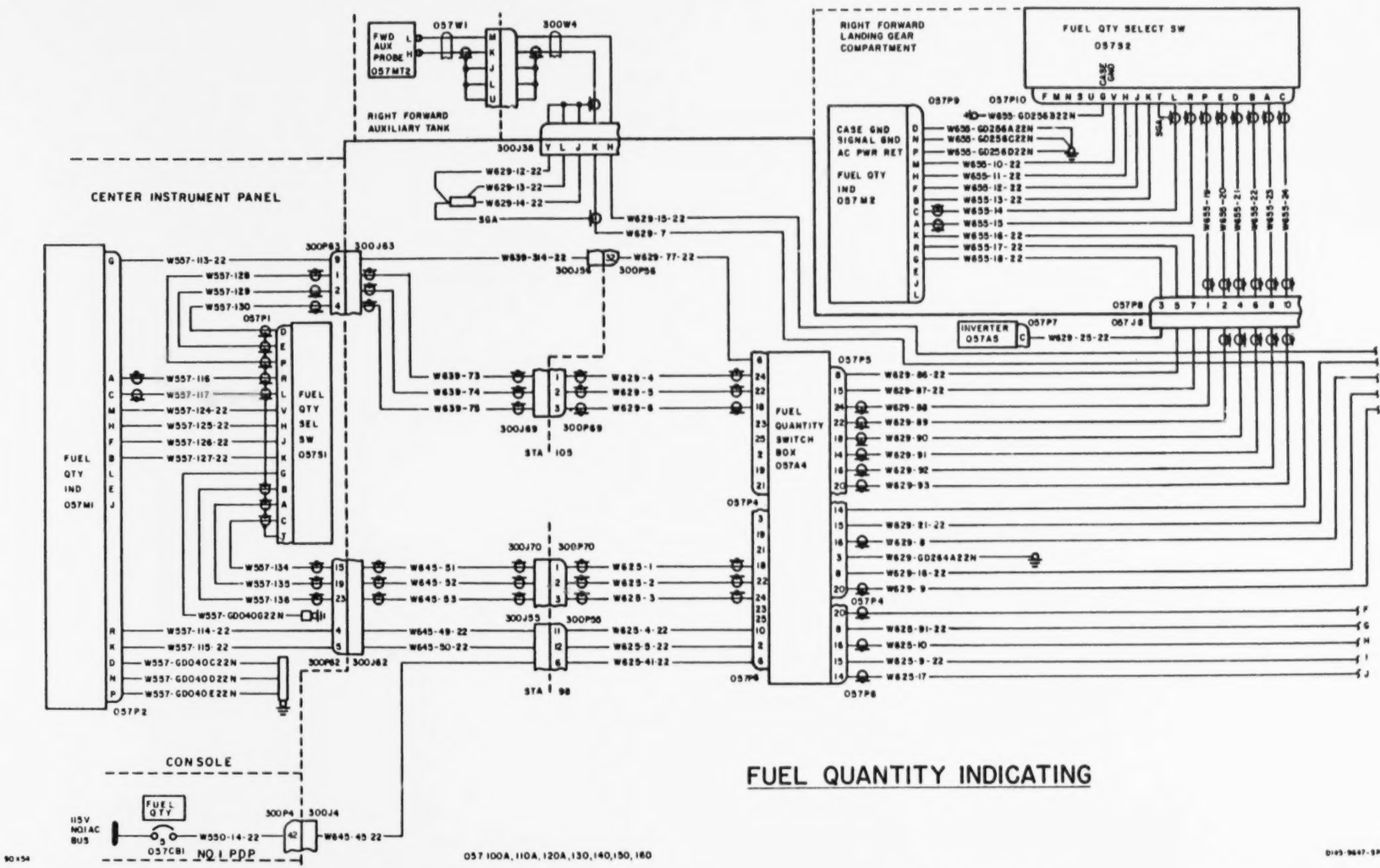
8-11 FUEL QUANTITY INDICATING SYSTEM

8-11 FUEL QUANTITY INDICATING SYSTEM

8-11.1 FUEL QUANTITY INDICATING SYSTEM WIRING DIAGRAM



8-11.1 FUEL QUANTITY INDICATING (FUEL QUANTITY) WIRING DIAGRAM



FUEL QUANTITY INDICATING

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057-100A, 110A, 120A, 130, 140, 150, 160

0193-9647-SPA①

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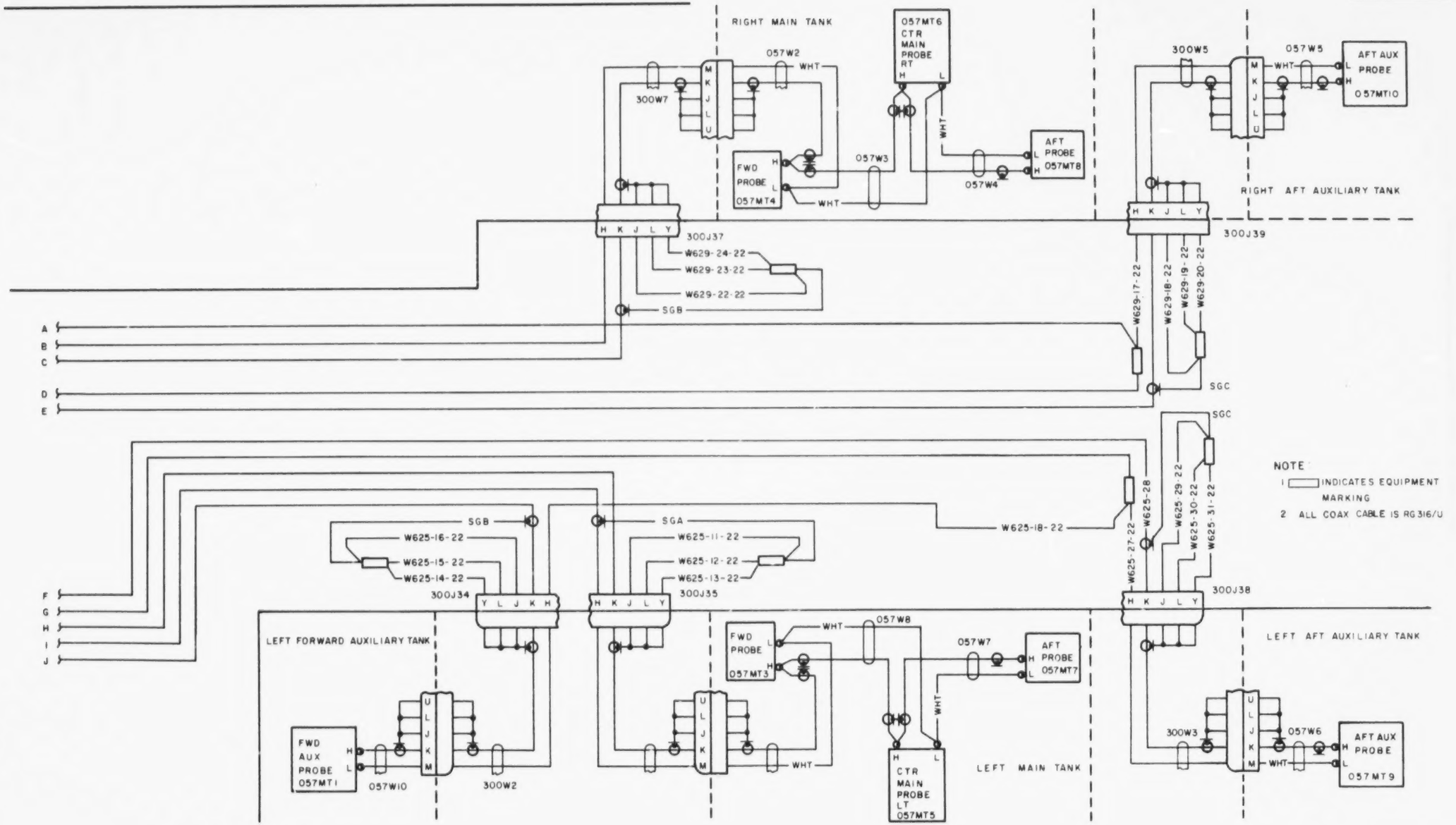
8-11.1 FUEL QUANTITY INDICATING (FUEL QUANTITY) WIRING DIAGRAM (Continued)



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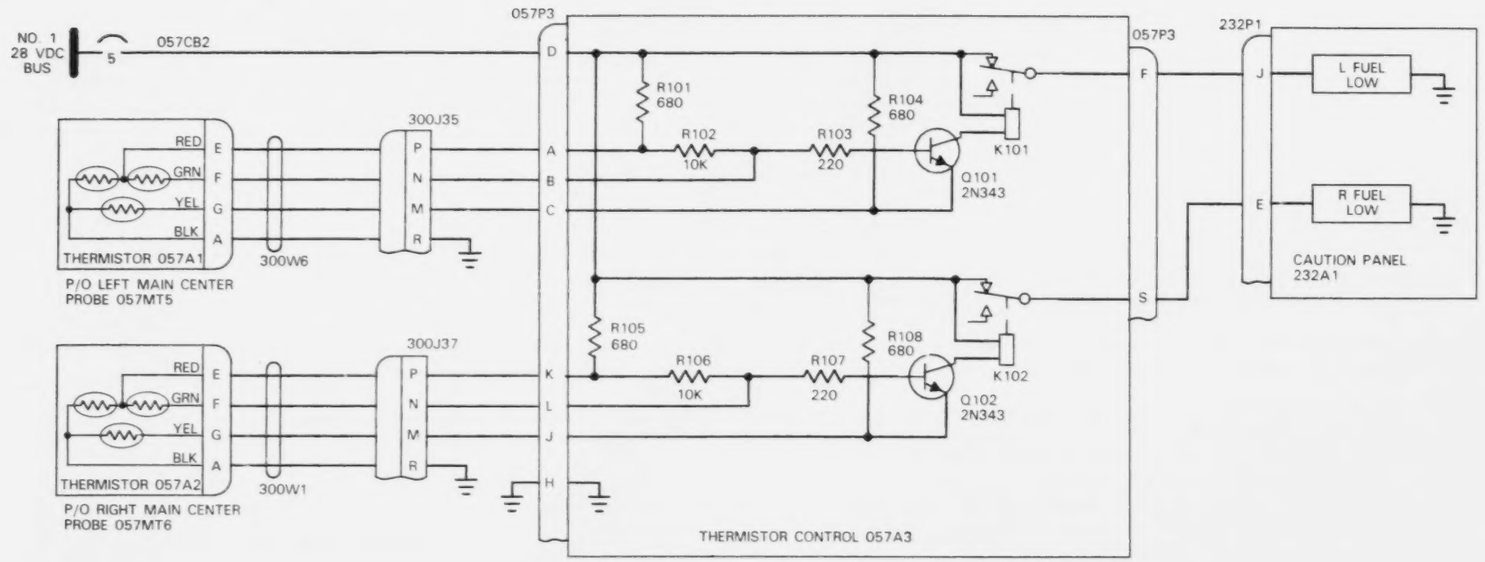

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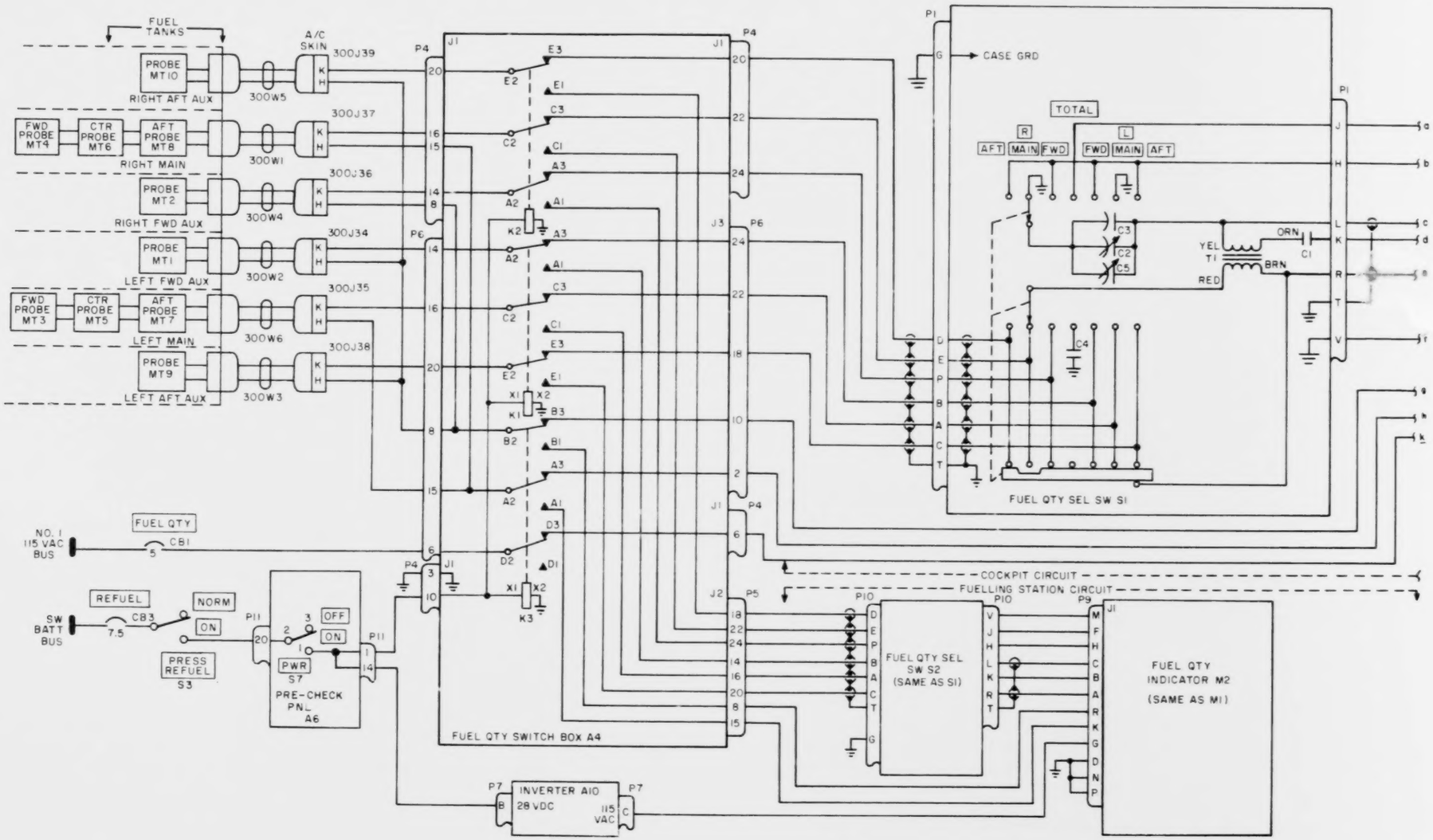

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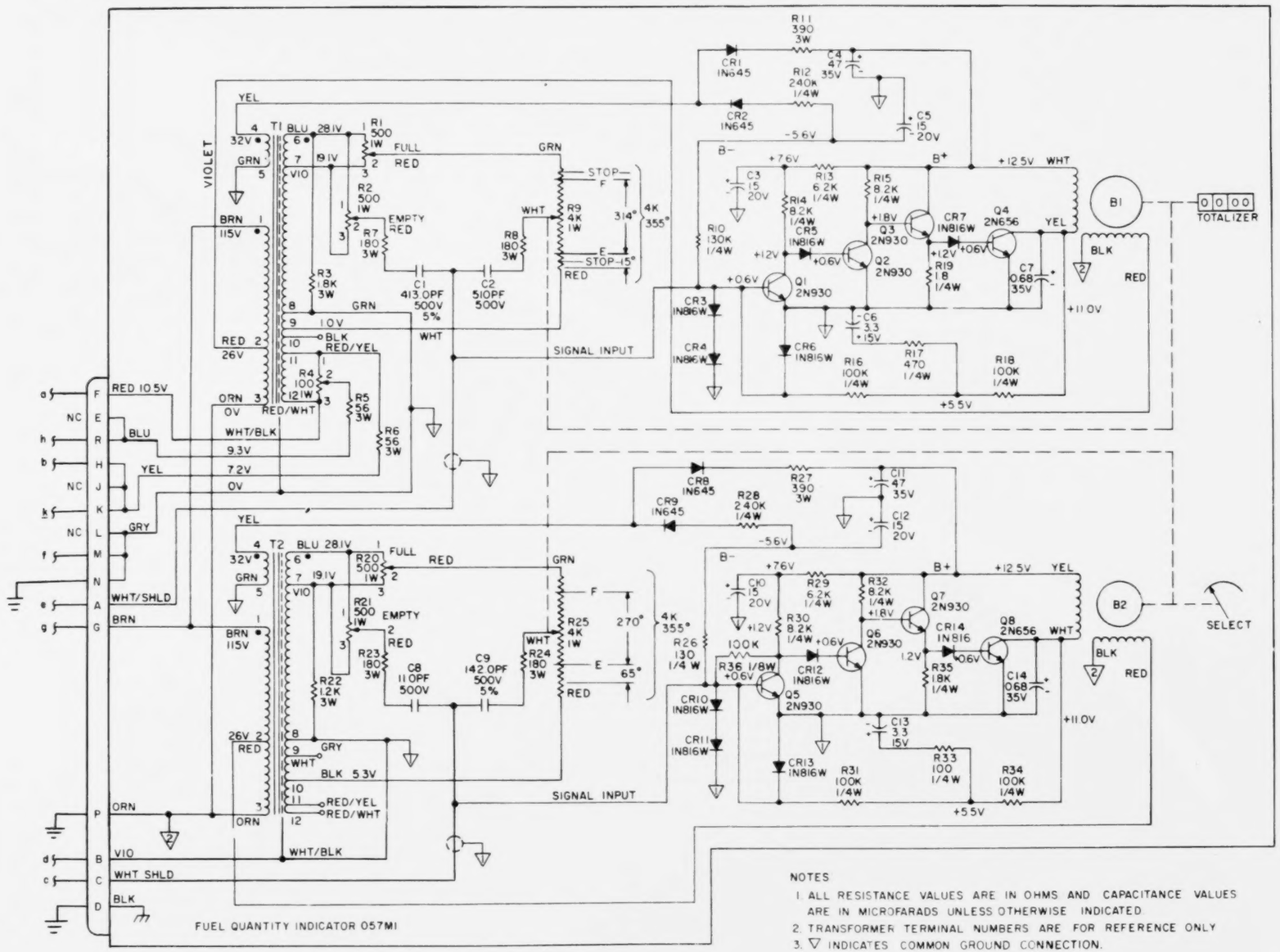

NOTES
1. ALL RESISTANCE VALUES ARE IN OHMS AND CAPACITANCE VALUES ARE IN MICROFARADS UNLESS OTHERWISE INDICATED.
2. TRANSFORMER TERMINAL NUMBERS ARE FOR REFERENCE ONLY
3. ▽ INDICATES COMMON GROUND CONNECTION.

9375

END OF TASK

8-11.2 FUEL QUANTITY INDICATING SYSTEM VISUAL CHECK 8-11.2

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Forward Right Landing Gear Access Panel Open

TASK	RESULT
1. Check fuel quantity indicator (1).	If indicator (1) is loose or damaged, tighten or replace it as required.
2. Check **FUEL QUANTITY** select switch (2).	If switch (2) is loose or damaged, tighten or replace it as required.
3. **Check REFUEL STATION switch (3).**	If switch (3) is loose or damaged, tighten or replace it as required.
4. Check fuel quantity switch box (4).	If switch box (4) is loose or damaged, repair or replace it as required. If plugs to switch box are loose, tighten them, If wires to plugs are frayed or cracked, repair or replace as required.
5. **Check inverter (5).**	If inverter (5) is loose or damaged, tighten or replace it as required.
6. **Check fuel quantity indicator (6).**	If indicator (6) is loose or damaged, tighten or replace it as required.
7. **Check fuel quantity selector switch (7).**	If switch (7) is loose or damaged, tighten or replace it as required.

FOLLOW-ON MAINTENANCE:
None

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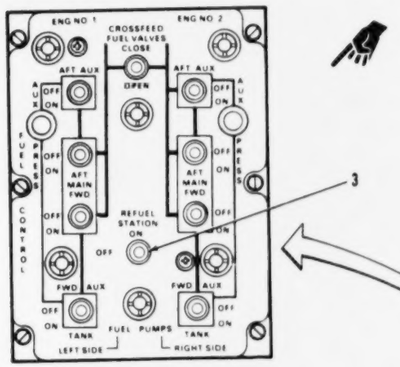
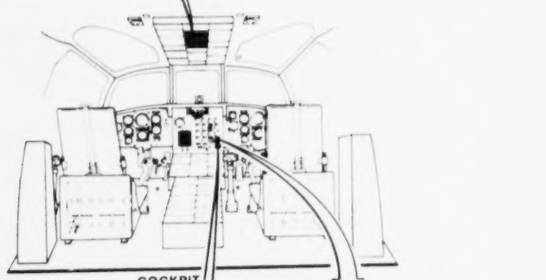
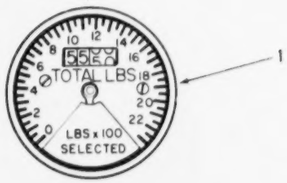
8-11.2 FUEL QUANTITY INDICATING SYSTEM VISUAL CHECK (Continued)

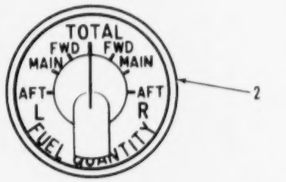


FUEL CONTROL PANEL





1



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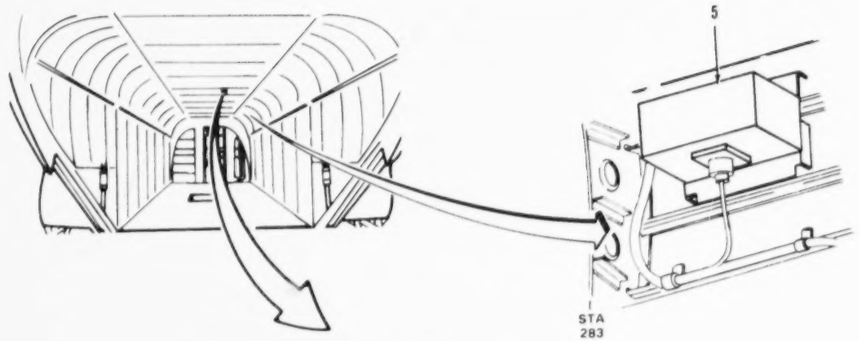
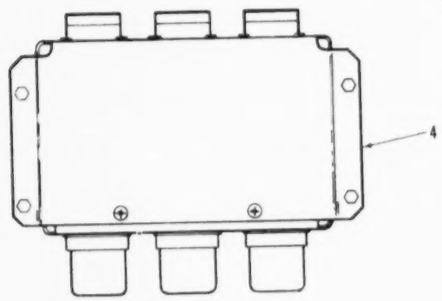
3





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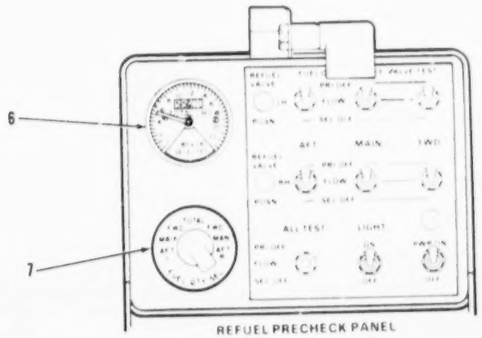
STA 232 0
RBL 5 00



6

7

REFUEL PRECHECK PANEL

1755

8-11.3 FUEL QUANTITY INDICATING SYSTEM OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

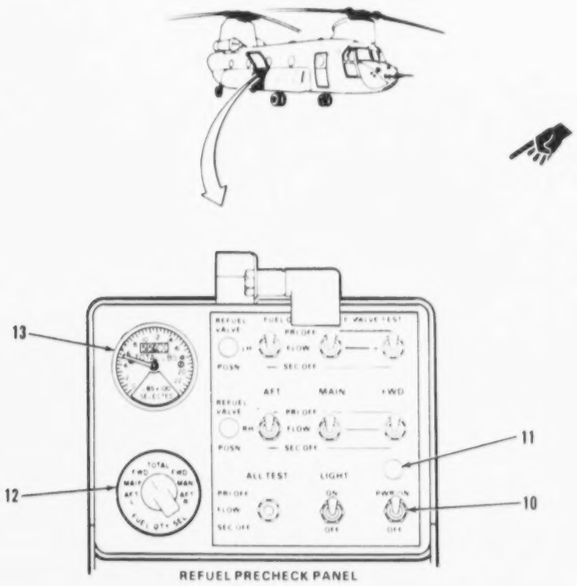
Personnel Required:
Aircraft Electrician

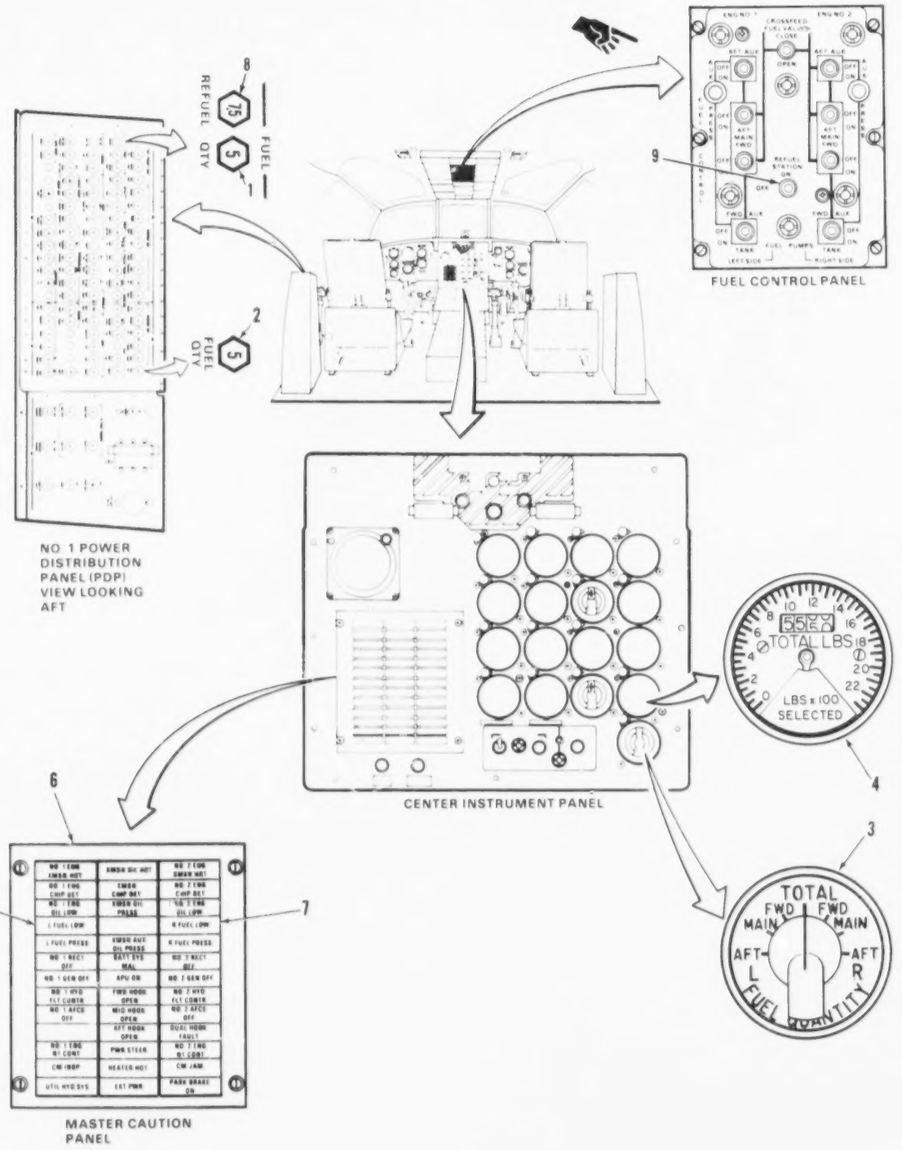
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Fuel Quantity Indicating System Visual Check Performed (Task 8-11.2)
All Fuel Tanks Serviced to FULL Using Gravity Refueling Method

NOTE

Do not use single point refueling for this check. Fuel quantity by single point refueling will vary due to different refueling pressures and rates of flow.





1816

GO TO NEXT PAGE

8-11.3 FUEL QUANTITY INDICATING SYSTEM OPERATIONAL CHECK (Continued)

TASK	RESULT
1. Check that FUEL QTY DC circuit breaker (1) is closed.	If circuit breaker (1) is open, close it. If it opens again, to to task 8-11.4.
2. Check that FUEL QTY AC circuit breaker (2) is closed.	If circuits breaker (2) is open, close it. If it open again, go to task 8-11.5.
3. Set fuel quantity selector switch (3) to L MAIN.	Fuel quantity indicator (4) shall read amount shown in Table 8-11.1. If indicator does not indicate amount shown in Table 8-11.1, go to task 8-11.6. If indicator pointer spins in either direction, go to task 8-11.7.
4. Set fuel quantity selector switch (3) to L FWD.	Fuel quantity indicator (4) shall read amount shown in Table 8-11.1. If not, go to task 8-11.8.
5. Set fuel quantity selector switch (3) to L AFT.	Fuel quantity indicator (4) shall read amount shown in Table 8-11.1. If not, go to task 8-11.9.
6. Set main quantity selector switch (3) to R MAIN.	Fuel quantity indicator (4) shall read amount shown in Table 8-11.1. If not, go to task 8-11.10.
7. Set fuel quantity selector switch (3) to R FWD.	Fuel quantity indicator (4) shall read amount shown in Table 8-11.1. If not, go to task 8-11.11.
8. Set fuel quantity selector switch (3) to R AFT.	Fuel quantity indicator (4) shall read amount shown in Table 8-11.1. If not, go to task 8-11.12.
9. Set fuel quantity selector switch (3) to TOTAL.	Fuel quantity indicator (4) digital readout shall indicate amount shown in Table 8-11.1. If not, go to task 8-11.13.
10. If L FUEL LOW warning capsule (5) on master caution panel (6) is on, go to task 8-11.14.	
11. If **R FUEL LOW** warning capsule (7) on master caution panel (6) is on, go to task 8-11.15.	
12. To check low fuel warning on left main fuel tank, drain tank until fuel level is below 320 to 420 pounds.	If L FUEL LOW warning capsule (5) on master caution panel (6) does not come on, go to task 8-11.16.
13. To check low fuel warning on right main fuel tank, drain tank until fuel level is below 320 to 420 pounds.	If R FUEL LOW warning capsule (7) on master caution panel (6) does not come on, go to task 8-11.17.
CHECK FUEL QUANTITY AT REFUEL PRECHECK PANEL	
14. **Check that FUEL REFUEL circuit breaker (8)** is closed.	If circuit breaker (8) is open, close it. If it opens again, go to task 10-3.5.
15. **Set REFUEL STATION switch (9) to ON.**	
16. **Set PWR switch (10) to ON.**	Light (11) shall come on. If light (11) does not come on, go to task 10-3.8.
17. **Turn fuel quantity selector switch (12) to each position. Record fuel quantity reading** on fuel quantity indicator (13) for each switch position.	Fuel quantity indicator (13) shall read amount for each switch posititon shown in Table 8-11.1. If indicator does not read any amount for all switch positions, go to task 8-11.18. If indicator reads amount for all but one position, go to task 8-11.19.
18. **Set PWR switch (10) to OFF.**	
19. **Set REFUEL STATION switch (9) to OFF.**	

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Forward Right Landing Gear Access Panel Closed

TABLE 8-11.1

SWITCH POSITION	INDICATOR READING FOR FUEL TYPE		
	JP-4 SP GR @ 6.5 lb	JP-5 SP GR @ 6.8 lb	JP-8 SP GR @ 6.7 lb
L MAIN	1699 to 1915 lbs	1777 to 2003 lbs	1751 to 1973 lbs
L FWD	746 to 840 lbs	780 to 878 lbs	768 to 866 lbs
L AFT	721 to 813 lbs	754 to 850 lbs	743 to 837 lbs
R MAIN	1675 to 1887 lbs	1752 to 1974 lbs	1725 to 1945 lbs
R FWD	737 to 819 lbs	761 to 857 lbs	750 to 844 lbs
R AFT	715 to 805 lbs	748 to 842 lbs	736 to 830 lbs
TOTAL	6282 to 7082 lbs	6581 to 7409 lbs	6474 to 7300 lbs

END OF TASK

8-11.4 FUEL QTY DC CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

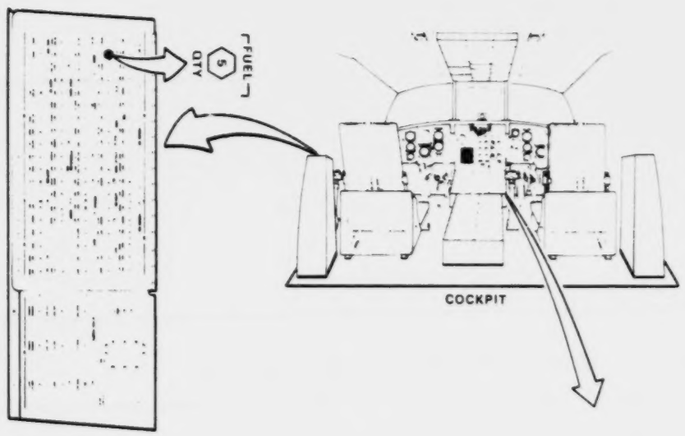
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

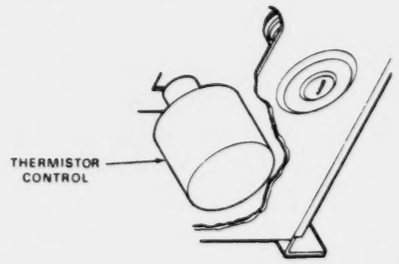
Personnel Required:
68F10 Aircraft Electrician

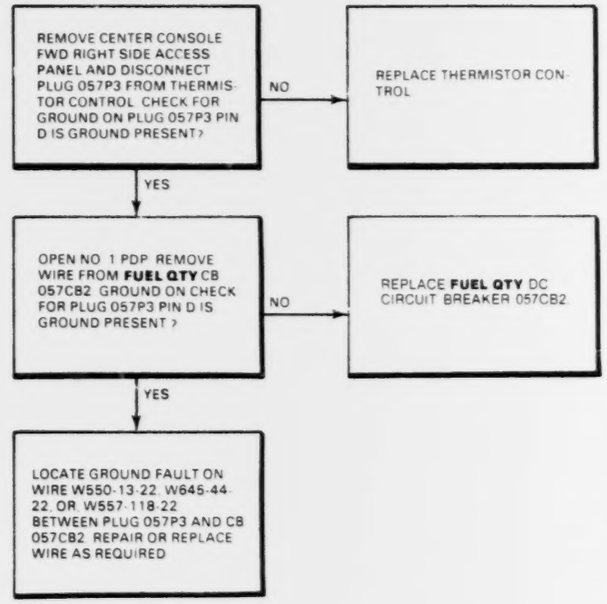
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



NO 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT




REMOVE CENTER CONSOLE FWD RIGHT SIDE ACCESS PANEL AND DISCONNECT PLUG 057P3 FROM THERMISTOR CONTROL CHECK FOR GROUND ON PLUG 057P3 PIN D IS GROUND PRESENT?
NO
REPLACE THERMISTOR CONTROL
YES
OPEN NO 1 PDP REMOVE WIRE FROM FUEL QTY CB 057CB2 GROUND ON CHECK FOR PLUG 057P3 PIN D IS GROUND PRESENT ?
NO
REPLACE FUEL QTY DC CIRCUIT BREAKER 057CB2
YES
LOCATE GROUND FAULT ON WIRE W550-13-22 W645-44-22 OR W557-118-22 BETWEEN PLUG 057P3 AND CB 057CB2 REPAIR OR REPLACE WIRE AS REQUIRED

45 x 54

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END OF TASK

8-11.5 FUEL QTY AC CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

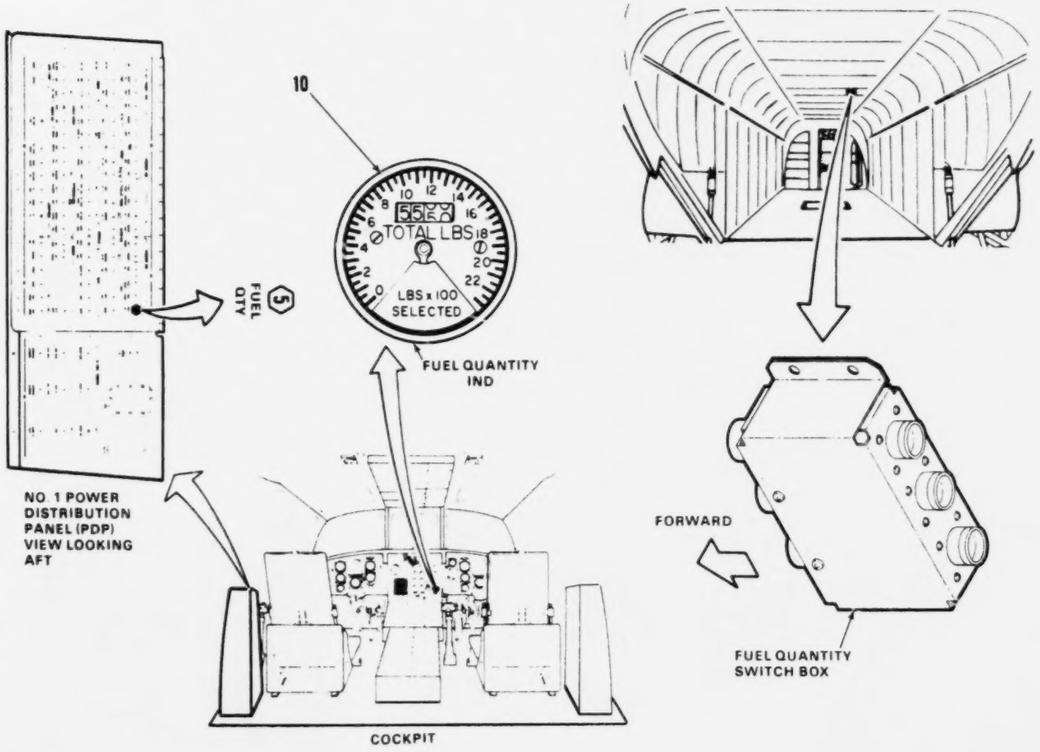
Applicable Configurations:
All

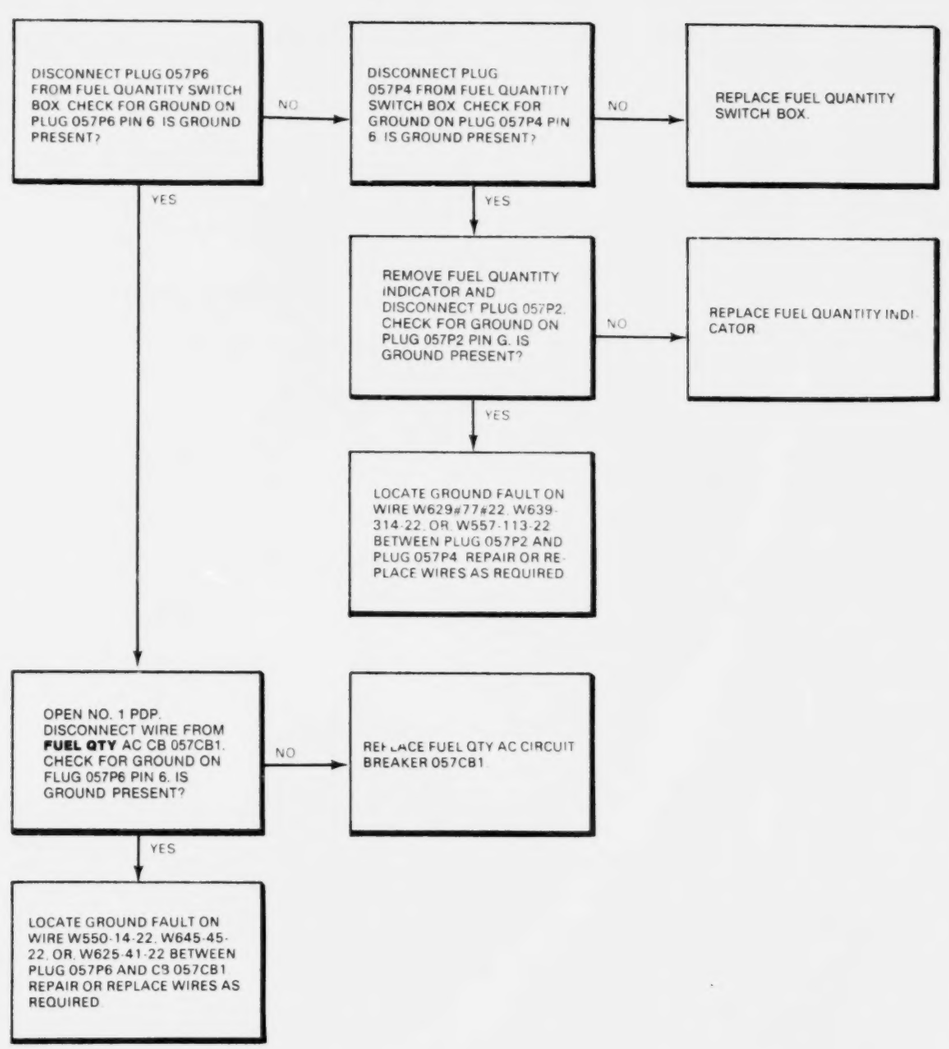
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off




DISCONNECT PLUG 057P6 FROM FUEL QUANTITY SWITCH BOX. CHECK FOR GROUND ON PLUG 057P6 PIN 6. IS GROUND PRESENT?
NO
DISCONNECT PLUG 057P4 FROM FUEL QUANTITY SWITCH BOX. CHECK FOR GROUND ON PLUG 057P4 PIN 6. IS GROUND PRESENT?
NO
REPLACE FUEL QUANTITY SWITCH BOX.
YES
YES
REMOVE FUEL QUANTITY INDICATOR AND DISCONNECT PLUG 057P2. CHECK FOR GROUND ON PLUG 057P2 PIN G. IS GROUND PRESENT?
NO
REPLACE FUEL QUANTITY INDICATOR.
YES
LOCATE GROUND FAULT ON WIRE W629#77#22, W639-314-22, OR W557-113-22 BETWEEN PLUG 057P2 AND PLUG 057P4. REPAIR OR REPLACE WIRES AS REQUIRED
OPEN NO. 1 PDP. DISCONNECT WIRE FROM **FUEL QTY** AC CB 057CB1. CHECK FOR GROUND ON PLUG 057P6 PIN 6. IS GROUND PRESENT?
NO
REPLACE FUEL QTY AC CIRCUIT BREAKER 057CB1.
YES
LOCATE GROUND FAULT ON WIRE W550-14-22, W645-45-22, OR W625-41-22 BETWEEN PLUG 057P6 AND C9 057CB1. REPAIR OR REPLACE WIRES AS REQUIRED.

45 x 54

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END OF TASK

8-11.6 FUEL QUANTITY INDICATION WRONG WHEN FUEL QUANTITY SELECT SWITCH IS SET TO L MAIN

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

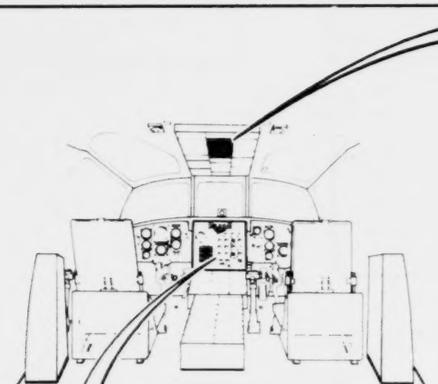
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

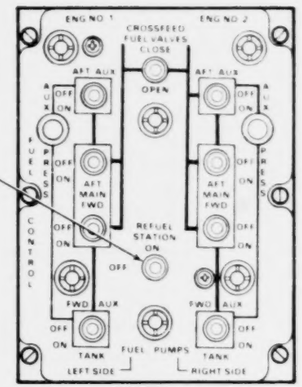
Materials:
None

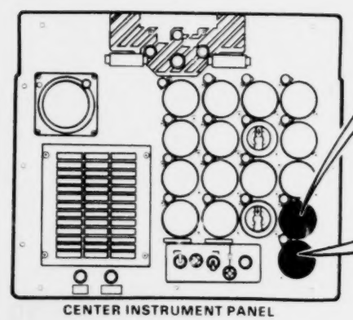
Personnel Required:
Aircraft Electrician (2)

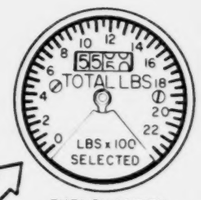
References:
TM 55-1520-240-23

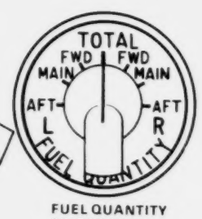
Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off
Right Fwd Landing Gear Access Panel Open

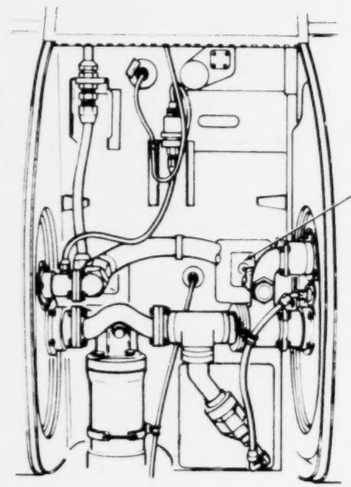


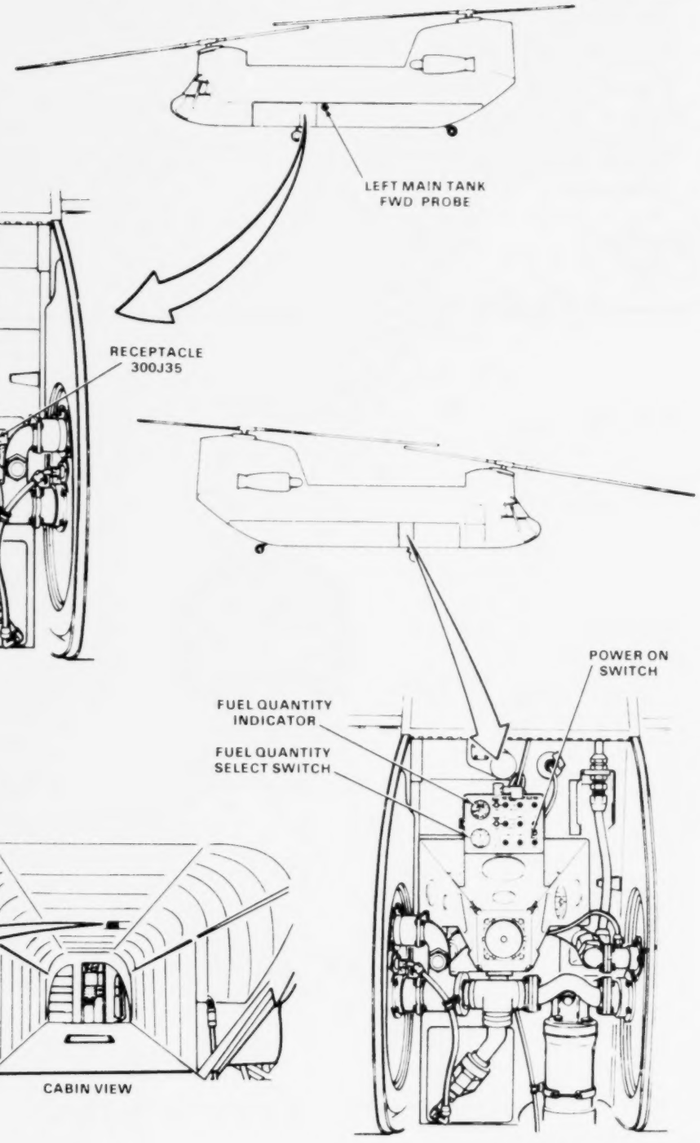


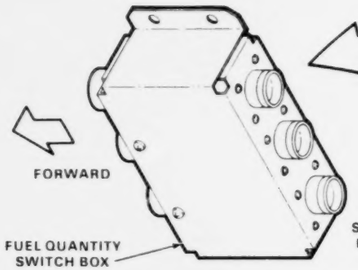


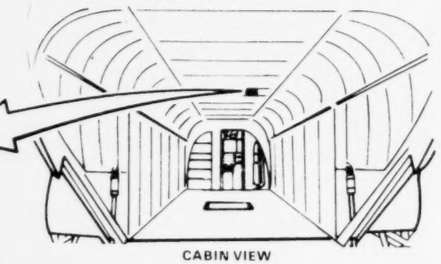












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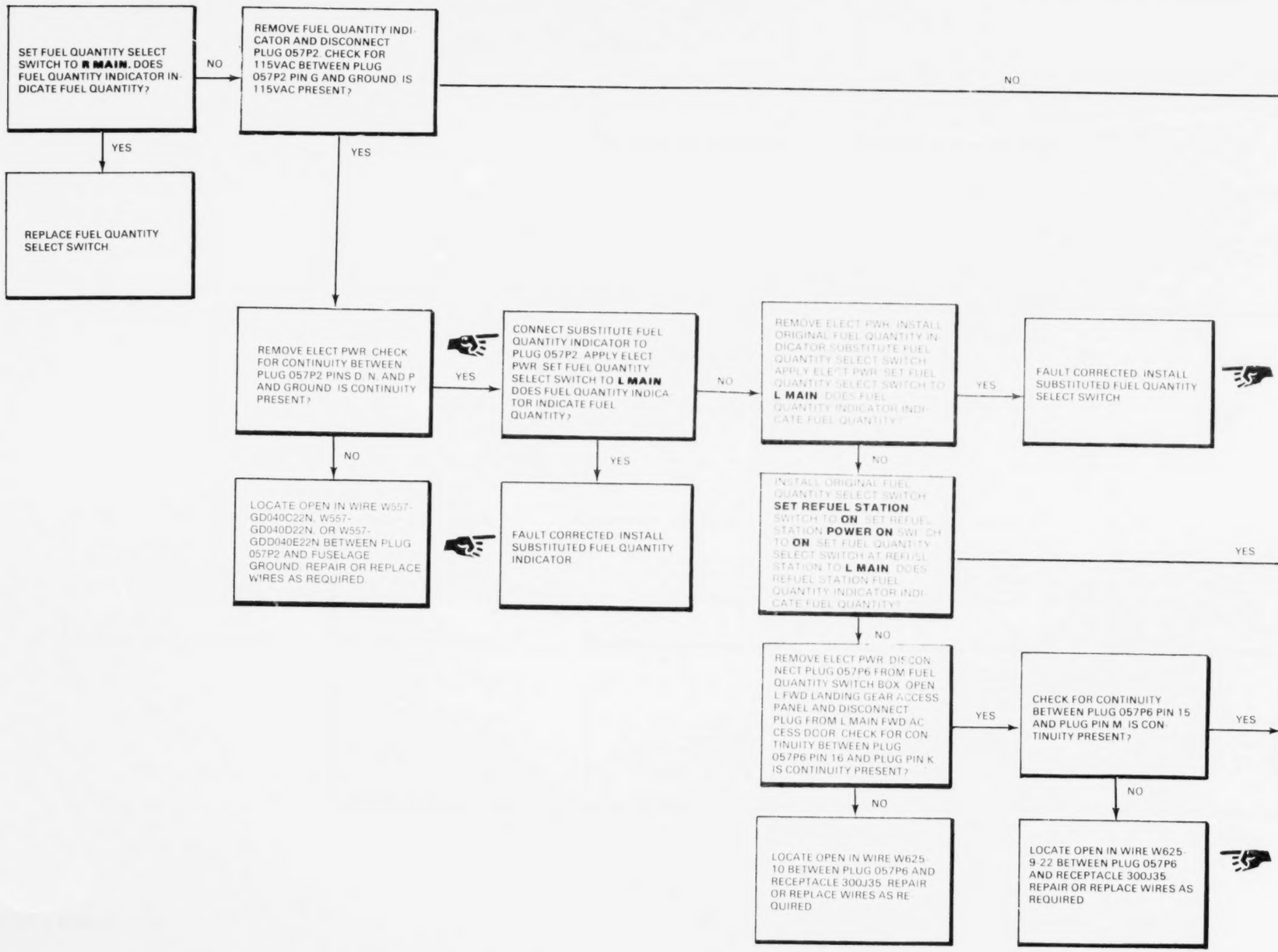
8-11.6 FUEL QUANTITY INDICATION WRONG WHEN FUEL QUANTITY SELECT SWITCH IS SET TO L MAIN (Continued)


SET FUEL QUANTITY SELECT SWITCH TO R MAIN. DOES FUEL QUANTITY INDICATOR INDICATE FUEL QUANTITY?
NO
YES
REMOVE FUEL QUANTITY INDICATOR AND DISCONNECT PLUG 057P2. CHECK FOR 115VAC BETWEEN PLUG 057P2 PIN G AND GROUND. IS 115VAC PRESENT?
NO
YES
REPLACE FUEL QUANTITY SELECT SWITCH
REMOVE ELECT PWR. CHECK FOR CONTINUITY BETWEEN PLUG 057P2 PINS D, N, AND P AND GROUND. IS CONTINUITY PRESENT?
YES
NO
CONNECT SUBSTITUTE FUEL QUANTITY INDICATOR TO PLUG 057P2. APPLY ELECT PWR. SET FUEL QUANTITY SELECT SWITCH TO L MAIN. DOES FUEL QUANTITY INDICATOR INDICATE FUEL QUANTITY?
NO
YES
REMOVE ELECT PWR. INSTALL ORIGINAL FUEL QUANTITY INDICATOR. SUBSTITUTE FUEL QUANTITY SELECT SWITCH. APPLY ELECT PWR. SET FUEL QUANTITY SELECT SWITCH TO L MAIN. DOES FUEL QUANTITY INDICATOR INDICATE FUEL QUANTITY?
YES
FAULT CORRECTED. INSTALL SUBSTITUTED FUEL QUANTITY SELECT SWITCH
LOCATE OPEN IN WIRE W557-GD040C22N, W557-GD040D22N, OR W557-GDD040E22N BETWEEN PLUG 057P2 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRES AS REQUIRED.
FAULT CORRECTED. INSTALL SUBSTITUTED FUEL QUANTITY INDICATOR
NO
INSTALL ORIGINAL FUEL QUANTITY SELECT SWITCH. SET REFUEL STATION SWITCH TO ON. SET REFUEL STATION POWER ON SWITCH TO ON. SET FUEL QUANTITY SELECT SWITCH AT REFUEL STATION TO L MAIN. DOES REFUEL STATION FUEL QUANTITY INDICATOR INDICATE FUEL QUANTITY?
YES
NO
REMOVE ELECT PWR. DISCONNECT PLUG 057P6 FROM FUEL QUANTITY SWITCH BOX. OPEN L FWD LANDING GEAR ACCESS PANEL AND DISCONNECT PLUG FROM L MAIN FWD ACCESS DOOR. CHECK FOR CONTINUITY BETWEEN PLUG 057P6 PIN 16 AND PLUG PIN K. IS CONTINUITY PRESENT?
YES
NO
CHECK FOR CONTINUITY BETWEEN PLUG 057P6 PIN 15 AND PLUG PIN M. IS CONTINUITY PRESENT?
YES
NO
REMOVE FWD PROBE FROM L MAIN FUEL TANK AND REPAIR OR REPLACE WIRES FROM PROBE TO L MAIN FUEL CELL ACCESS DOOR RECEPTACLE. IF WIRE CHECKS GOOD REPLACE PROBE.
LOCATE OPEN IN WIRE W625-10 BETWEEN PLUG 057P6 AND RECEPTACLE 300J35. REPAIR OR REPLACE WIRES AS REQUIRED
LOCATE OPEN IN WIRE W625-9-22 BETWEEN PLUG 057P6 AND RECEPTACLE 300J35 REPAIR OR REPLACE WIRES AS REQUIRED

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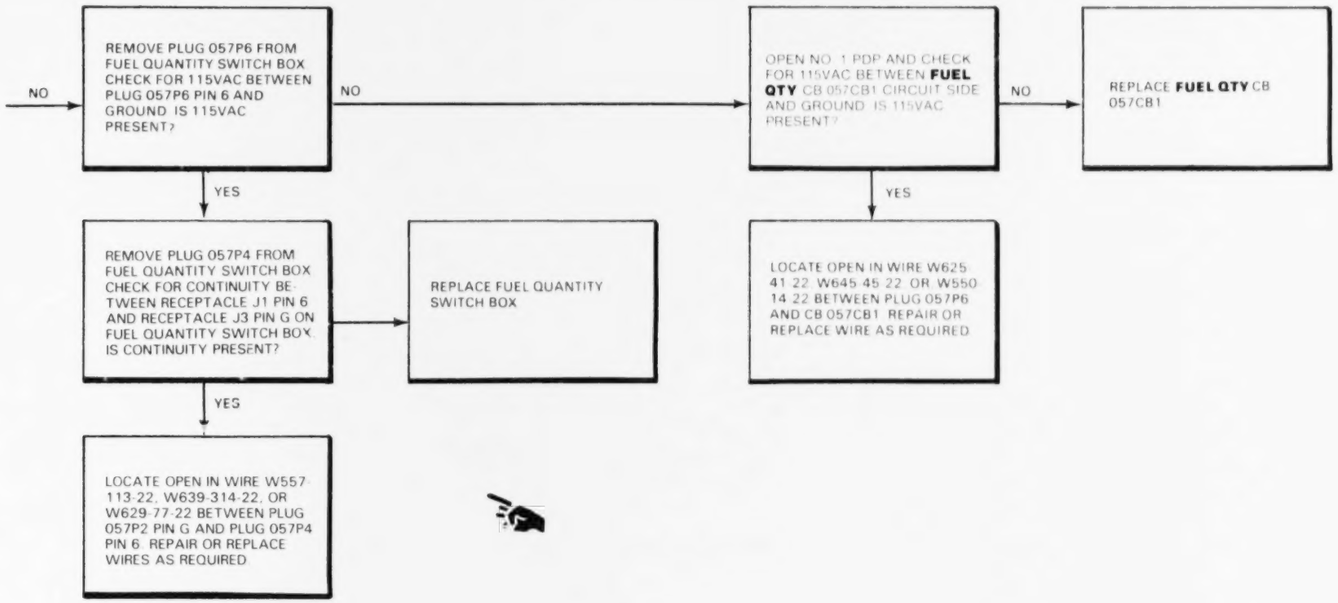
8-11.6 NO FUEL QUANTITY INDICATION WHEN FUEL QUANTITY SELECT SWITCH IS SET TO L MAIN (Continued)


NO
REMOVE PLUG 057P6 FROM FUEL QUANTITY SWITCH BOX. CHECK FOR 115VAC BETWEEN PLUG 057P6 PIN 6 AND GROUND. IS 115VAC PRESENT?
NO
OPEN NO. 1 PDP AND CHECK FOR 115VAC BETWEEN **FUEL QTY** CB 057CB1 CIRCUIT SIDE AND GROUND. IS 115VAC PRESENT?
NO
REPLACE **FUEL QTY** CB 057CB1
YES
YES
REMOVE PLUG 057P4 FROM FUEL QUANTITY SWITCH BOX. CHECK FOR CONTINUITY BETWEEN RECEPTACLE J1 PIN 6 AND RECEPTACLE J3 PIN G ON FUEL QUANTITY SWITCH BOX. IS CONTINUITY PRESENT?
REPLACE FUEL QUANTITY SWITCH BOX
LOCATE OPEN IN WIRE W625-41-22, W645-45-22, OR W550-14-22 BETWEEN PLUG 057P6 AND CB 057CB1. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE OPEN IN WIRE W557-113-22, W639-314-22, OR W629-77-22 BETWEEN PLUG 057P2 PIN G AND PLUG 057P4 PIN 6. REPAIR OR REPLACE WIRES AS REQUIRED
YES
REMOVE ELECT PWR. REMOVE FUEL QUANTITY SELECTOR SWITCH AND DISCONNECT PLUG 057P1. DISCONNECT PLUG 057P6 FROM FUEL QUANTITY SWITCH BOX. CHECK FOR CONTINUITY BETWEEN PLUG 057P1 PIN A AND PLUG 057P6 PIN 22. IS CONTINUITY PRESENT?
YES
REMOVE FUEL QUANTITY INDICATOR AND DISCONNECT PLUG 057P2. CHECK FOR CONTINUITY BETWEEN PLUG 057P2 PIN K AND PLUG 057P6 PIN 2. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 057P2 PIN A AND PLUG 057P1 PIN R. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 057P2 PIN C AND PLUG 057P1 PIN L. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 057P2 PIN M AND PLUG 057P1 PIN V. IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRE W557-GD040G22N BETWEEN PLUG 057P1 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-135, W645-52, OR W625-2 BETWEEN PLUG 057P1 AND PLUG 057P6. REPAIR OR REPLACE WIRES AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-115-22, W645-50-22, OR W625-6-22 BETWEEN PLUG 057P2 AND PLUG 057P6. REPAIR OR REPLACE WIRES AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-116 BETWEEN PLUG 057P2 AND PLUG 057P1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-117 BETWEEN PLUG 057P2 AND PLUG 057P1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-126-22 BETWEEN PLUG 057P2 AND PLUG 057P1. REPAIR OR REPLACE WIRE AS REQUIRED

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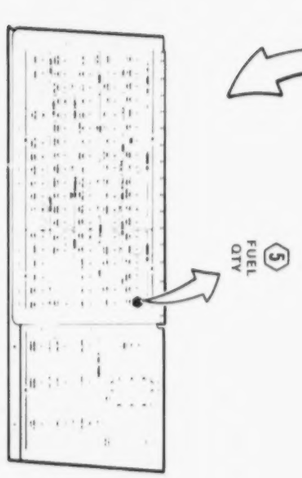
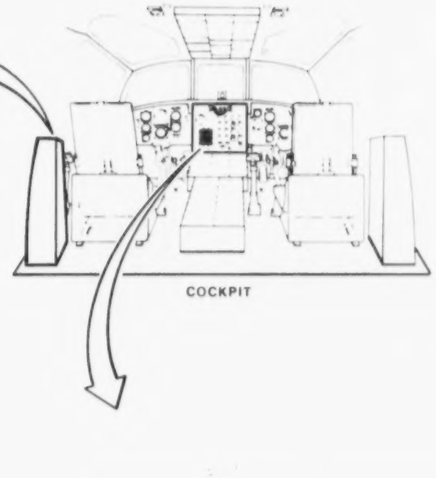
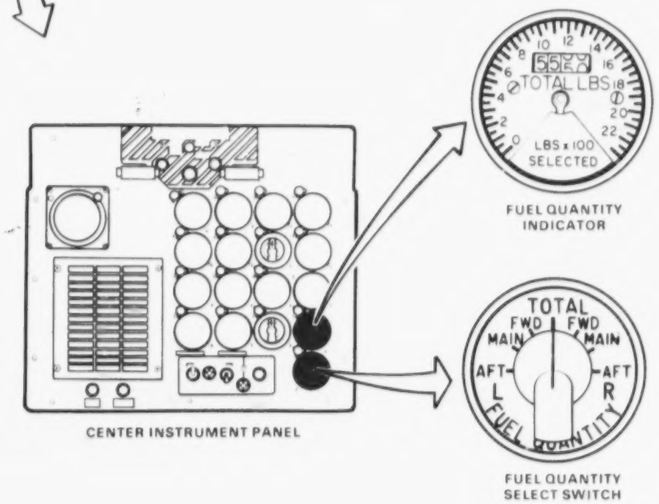
8-11.6 NO FUEL QUANTITY INDICATION WHEN FUEL QUANTITY SELECT SWITCH IS SET TO L MAIN (Continued)



NO 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT



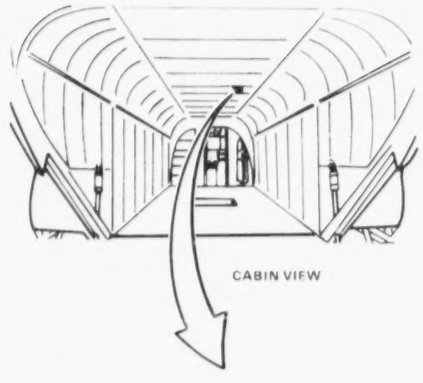
COCKPIT



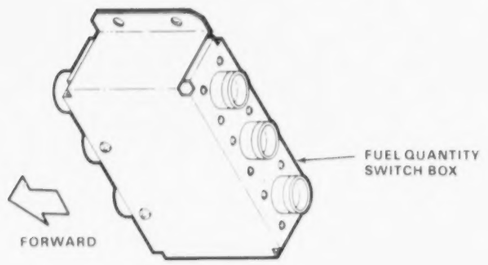
FUEL QUANTITY INDICATOR

CENTER INSTRUMENT PANEL

FUEL QUANTITY SELECT SWITCH



CABIN VIEW



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END OF TASK

8-11.7 FUEL QUANTITY INDICATOR POINTER SPINS CONTINUOUSLY WHEN FUEL QUANTITY SELECT SWITCH IS SET TO ANY POSITION

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

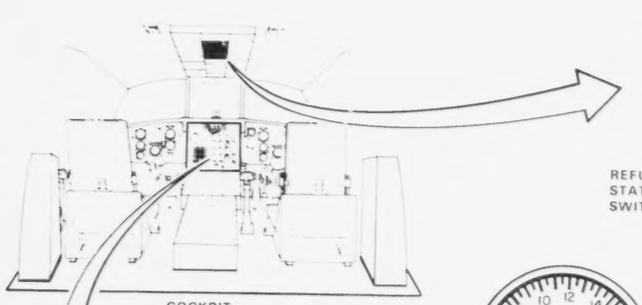
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

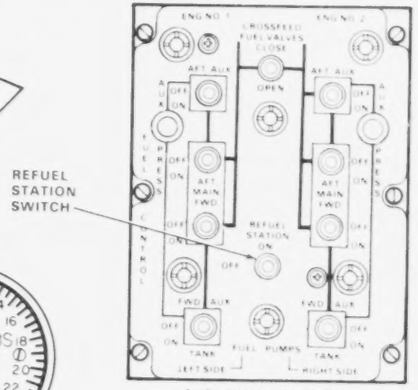
Materials:
None

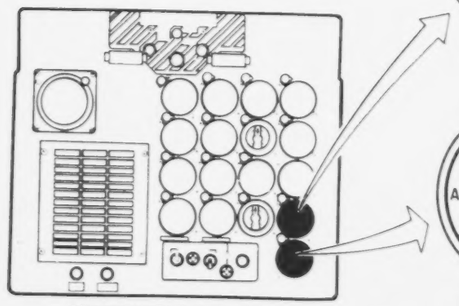
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

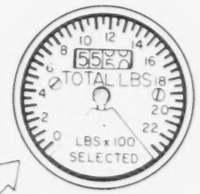
References:
TM 55-1520-240-23

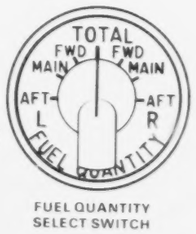
Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off
Right Fwd Landing Gear Access Panel Open

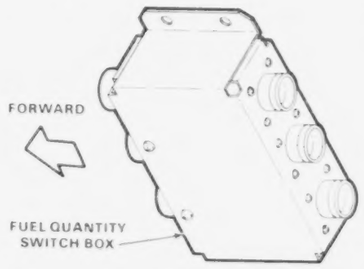


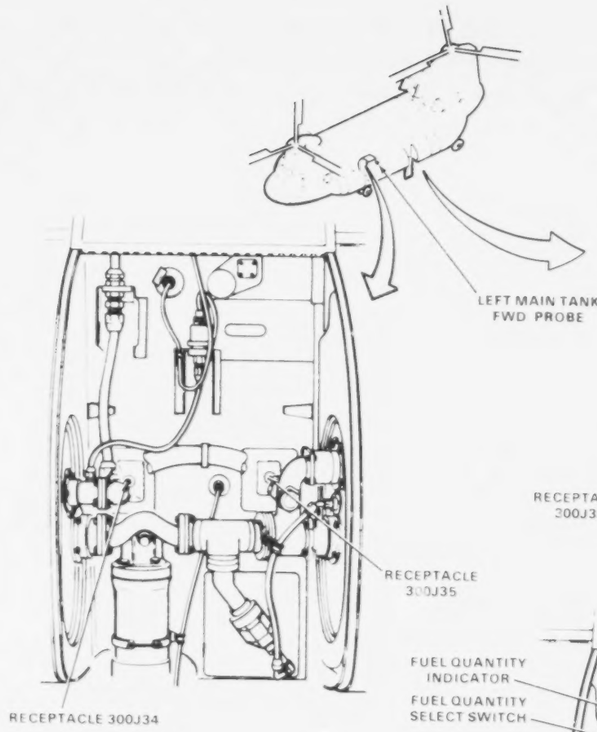


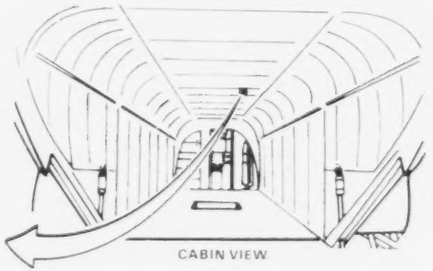


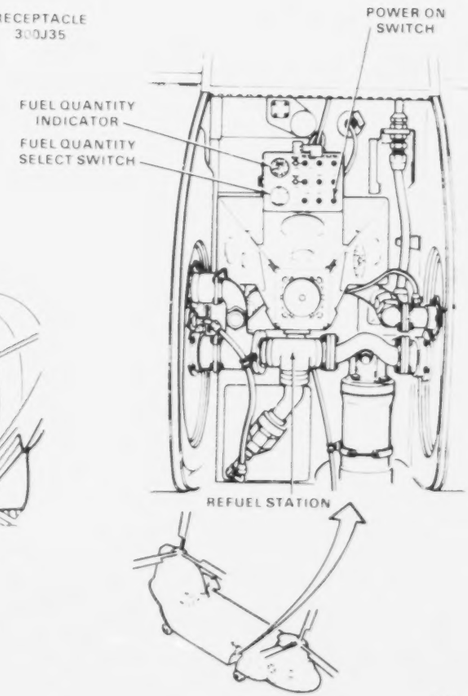












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8-11.7 FUEL QUANTITY INDICATOR POINTER SPINS CONTINUOUSLY WHEN FUEL QUANTITY SELECT SWITCH IS SET TO ANY POSITION (Continued)

SET REFUEL STATION SWITCH TO ON. SET REFUEL STATION POWER ON SWITCH TO ON. SET REFUEL STATION FUEL QUANTITY SWITCH TO ANY POSITION. DOES FUEL QUANTITY INDICATOR AT REFUEL STATION SPIN?
YES
REMOVE PLUG 057P6 FROM FUEL QUANTITY SWITCH BOX. OPEN L AFT INTER TANK ACCESS DOOR. DISCONNECT PLUG FROM RECEPTACLE ON L AFT AUX TANK ACCESS DOOR. CHECK FOR GROUND ON PLUG 057P6 PIN 8 AND PLUG PIN H. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W625-91-22, W625-27-22, OR W625-18-22 BETWEEN PLUG 057P6 AND L FWD AND AFT AUX TANK ACCESS DOOR RECEPTACLES. REPAIR OR REPLACE WIRES AS REQUIRED
NO
NO
SET REFUEL STATION POWER ON SWITCH TO OFF. SET REFUEL STATION SWITCH TO OFF. DOES COCKPIT FUEL QUANTITY INDICATOR POINTER SPIN CLOCKWISE WHEN FUEL QUANTITY SELECT SWITCH IS IN ANY POSITION?
NO
REPLACE FUEL QUANTITY INDICATOR
LOCATE GROUND FAULT ON WIRE W625-9-22 BETWEEN PLUG 057P6 AND PLUG AT RECEPTACLE ON L MAIN TANK FWD ACCESS DOOR. REPAIR OR REPLACE WIRES AS REQUIRED
YES
REMOVE ELECT PWR. REMOVE FUEL QUANTITY INDICATOR AND DISCONNECT PLUG 057P2. CHECK FOR GROUND ON PLUG 057P2 PIN F. IS GROUND PRESENT?
NO
CHECK FOR GROUND ON PLUG 057P2 PIN H. IS GROUND PRESENT?
NO
CHECK FOR GROUND ON PLUG 057P2 PINS R AND K. IS GROUND PRESENT?
NO
REPLACE FUEL QUANTITY INDICATOR
YES
YES
YES
REPLACE FUEL QUANTITY SELECT SWITCH
NO
REMOVE FUEL QUANTITY SELECT SWITCH AND DISCONNECT PLUG 057P1. CHECK FOR GROUND ON PLUG 057P1 PIN H. IS GROUND PRESENT?
YES
IS GROUND PRESENT ON PLUG 057P2 PIN R?
NO
REMOVE PLUG 057P6 FROM FUEL QUANTITY SWITCH BOX. CHECK FOR GROUND ON PLUG 057P6 PIN 2. IS GROUND PRESENT?
NO
REPLACE FUEL QUANTITY SWITCH BOX
REMOVE FUEL QUANTITY SELECT SWITCH AND DISCONNECT PLUG 057P1. CHECK FOR GROUND ON PLUG 057P1 PIN J. IS GROUND PRESENT?
NO
REPLACE FUEL QUANTITY SELECT SWITCH
LOCATE GROUND FAULT ON WIRE W557-126-22 BETWEEN PLUG 057P1 AND PLUG 057P2. REPAIR OR REPLACE WIRE AS REQUIRED
YES
YES
LOCATE GROUND FAULT ON WIRE W557-115-22, W645-50-22, OR W625-5-22 BETWEEN PLUG 057P2 AND PLUG 057P6. REPAIR OR REPLACE WIRES AS REQUIRED
YES
LOCATE GROUND FAULT ON WIRE W557-125-22 BETWEEN PLUG 057P1 AND PLUG 057P2. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W557-114-22, W645-49-22, OR W625-4-22 BETWEEN PLUG 057P2 AND PLUG 057P6. REPAIR OR REPLACE WIRES AS REQUIRED
YES
REMOVE PLUG 057P6 FROM FUEL QUANTITY SWITCH BOX. CHECK FOR GROUND ON PLUG 057P6 PIN 10. IS GROUND PRESENT?
NO
REPLACE FUEL SELECT PANEL

8-11.8 FUEL QUANTITY INDICATION WHEN FUEL QUANTITY SELECT SWITCH IS SET TO L FWD

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

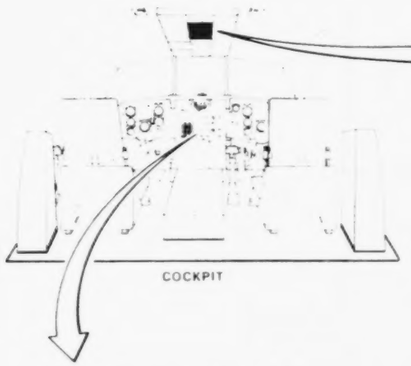
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition
Battery Connected
Electrical Power On
Hydraulic Power Off
Right Forward Land Gear Access Panel Open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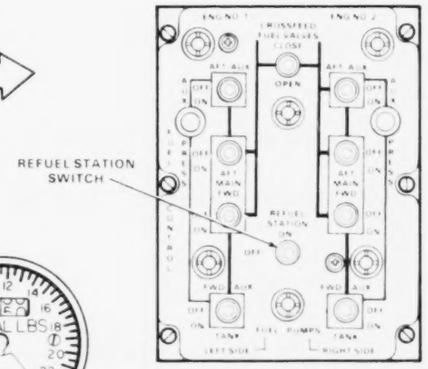
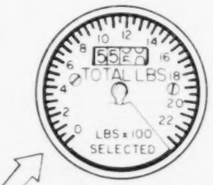
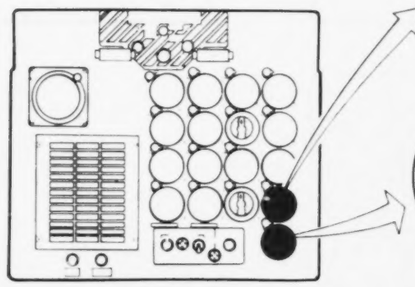
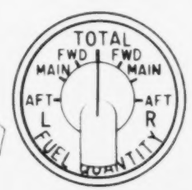




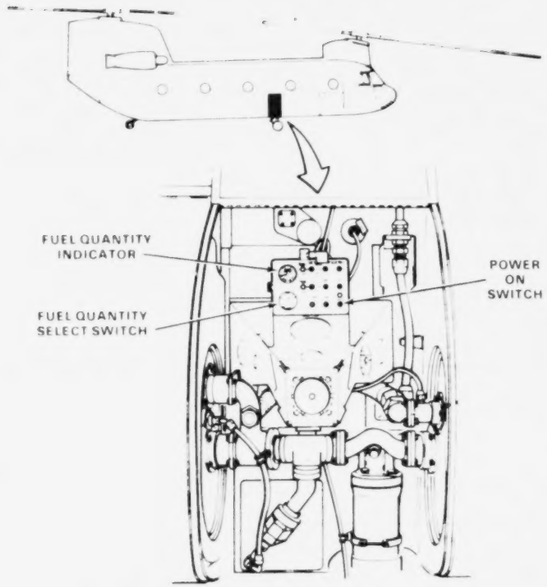
FUEL QUANTITY INDICATOR


CENTER INSTRUMENT PANEL

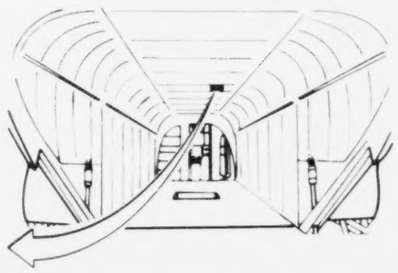


FUEL QUANTITY SELECT SWITCH

FUEL QUANTITY SWITCH BOX
STA 232
RBL 5.0



REFUEL STATION



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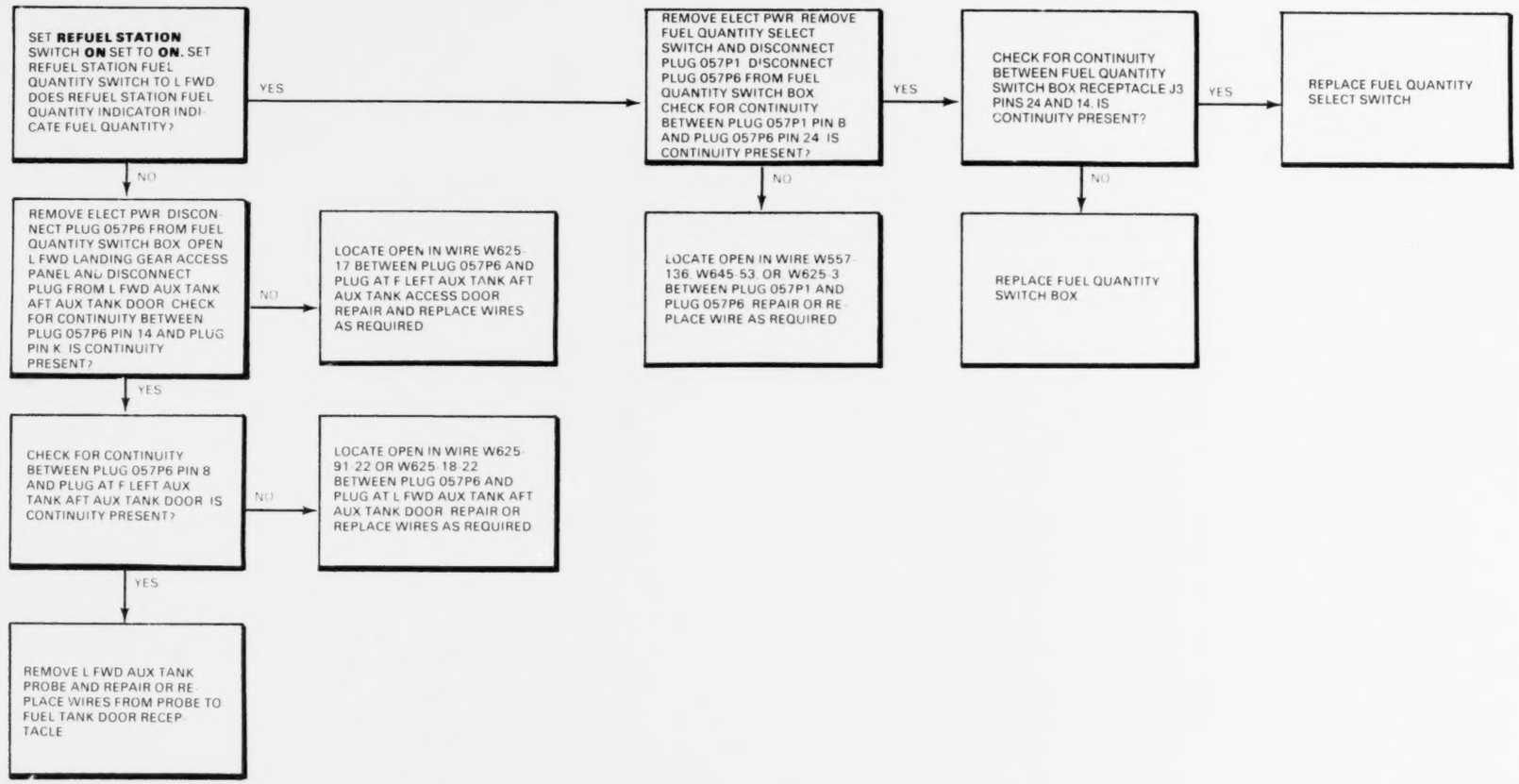
8-11.8 NO FUEL QUANTITY INDICATION WHEN FUEL QUANTITY SELECT SWITCH IS SET TO L FWD (Continued)


SET **REFUEL STATION** SWITCH **ON** SET TO **ON**. SET REFUEL STATION FUEL QUANTITY SWITCH TO L FWD. DOES REFUEL STATION FUEL QUANTITY INDICATOR INDICATE FUEL QUANTITY?
YES
NO
REMOVE ELECT PWR. DISCONNECT PLUG 057P6 FROM FUEL QUANTITY SWITCH BOX. OPEN L FWD LANDING GEAR ACCESS PANEL AND DISCONNECT PLUG FROM L FWD AUX TANK AFT AUX TANK DOOR. CHECK FOR CONTINUITY BETWEEN PLUG 057P6 PIN 14 AND PLUG PIN K. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W625-17 BETWEEN PLUG 057P6 AND PLUG AT F LEFT AUX TANK AFT AUX TANK ACCESS DOOR. REPAIR AND REPLACE WIRES AS REQUIRED
YES
CHECK FOR CONTINUITY BETWEEN PLUG 057P6 PIN 8 AND PLUG AT F LEFT AUX TANK AFT AUX TANK DOOR. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W625-91-22 OR W625-18-22 BETWEEN PLUG 057P6 AND PLUG AT L FWD AUX TANK AFT AUX TANK DOOR. REPAIR OR REPLACE WIRES AS REQUIRED
YES
REMOVE L FWD AUX TANK PROBE AND REPAIR OR REPLACE WIRES FROM PROBE TO FUEL TANK DOOR RECEPTACLE
REMOVE ELECT PWR. REMOVE FUEL QUANTITY SELECT SWITCH AND DISCONNECT PLUG 057P1. DISCONNECT PLUG 057P6 FROM FUEL QUANTITY SWITCH BOX. CHECK FOR CONTINUITY BETWEEN PLUG 057P1 PIN B AND PLUG 057P6 PIN 24. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-136, W645-53, OR W625-3 BETWEEN PLUG 057P1 AND PLUG 057P6. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR CONTINUITY BETWEEN FUEL QUANTITY SWITCH BOX RECEPTACLE J3 PINS 24 AND 14. IS CONTINUITY PRESENT?
YES
NO
REPLACE FUEL QUANTITY SELECT SWITCH
REPLACE FUEL QUANTITY SWITCH BOX

END OF TASK

8-11.9 FUEL QUANTITY INDICATION WHEN FUEL QUANTITY SELECT SWITCH IS SET TO L AFT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

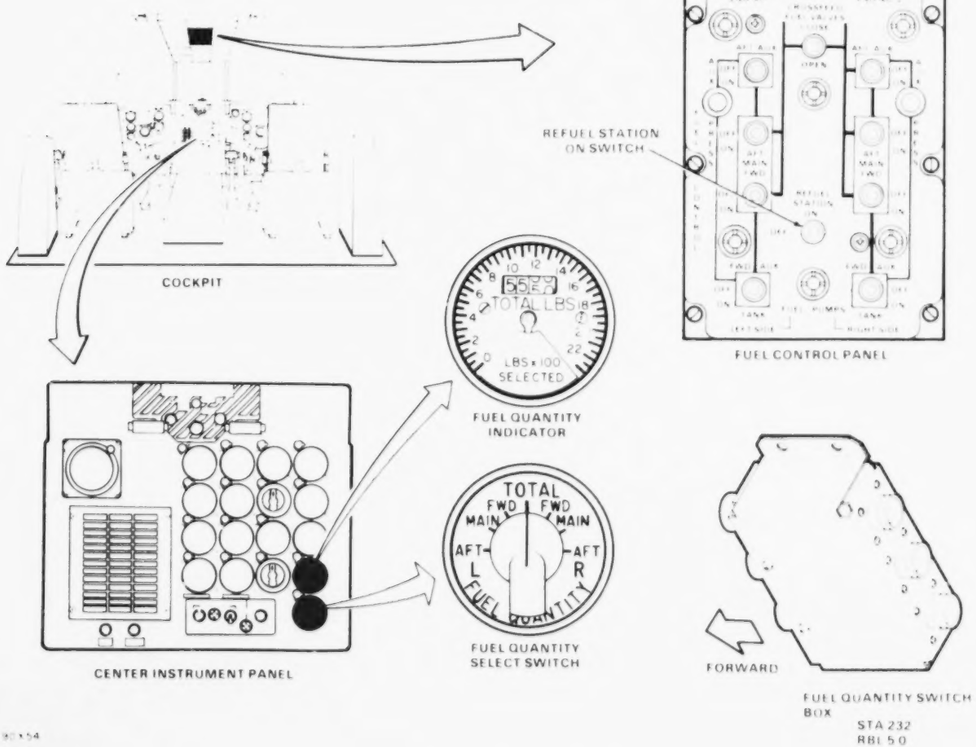
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

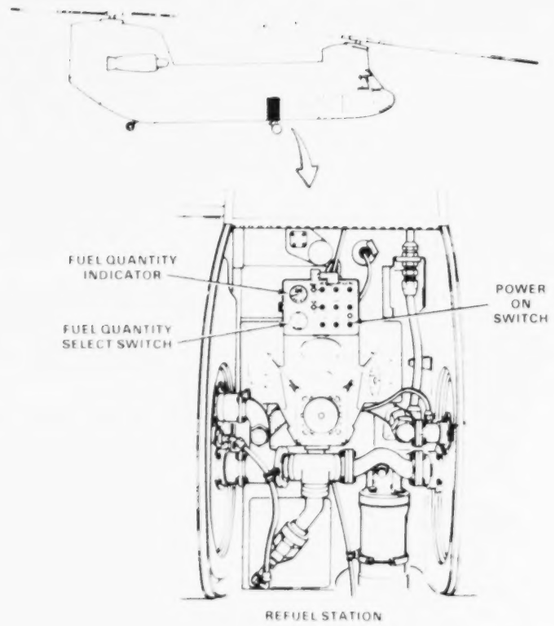
Materials:
None

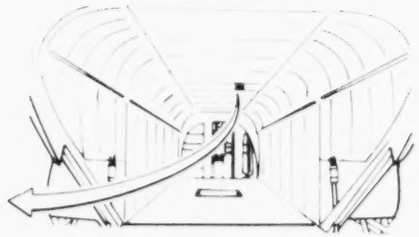
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
Battery Connected
Electrical Power On
Hydraulic Power Off
Right Forward Landing Gear Access Panel Open







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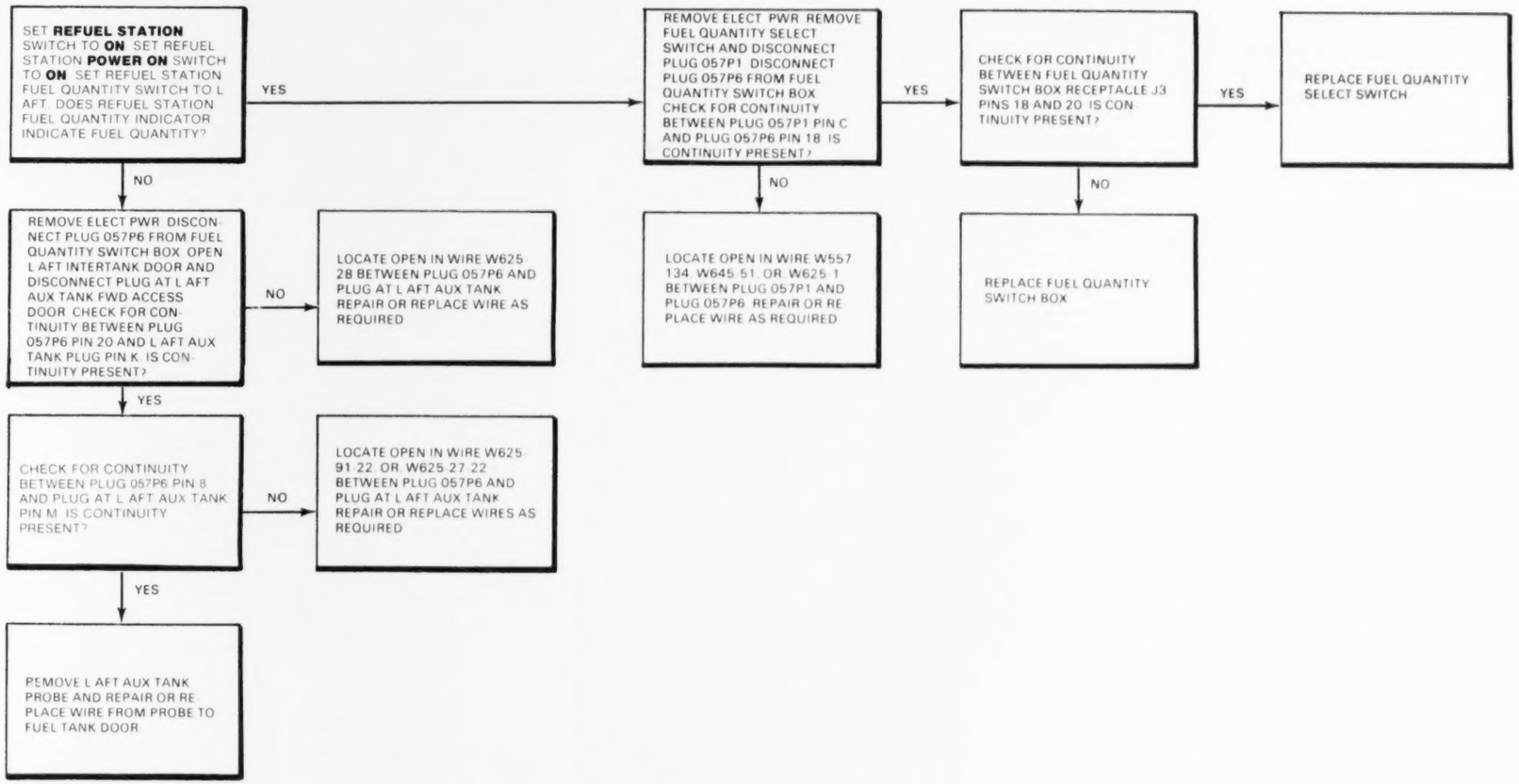
8-11.9 NO FUEL QUANTITY INDICATION WHEN FUEL QUANTITY SELECT SWITCH IS SET TO L AFT (Continued)


SET **REFUEL STATION** SWITCH TO **ON**. SET REFUEL STATION **POWER ON** SWITCH TO **ON**. SET REFUEL STATION FUEL QUANTITY SWITCH TO L AFT. DOES REFUEL STATION FUEL QUANTITY INDICATOR INDICATE FUEL QUANTITY?
YES
NO
REMOVE ELECT PWR. REMOVE FUEL QUANTITY SELECT SWITCH AND DISCONNECT PLUG 057P1. DISCONNECT PLUG 057P6 FROM FUEL QUANTITY SWITCH BOX. CHECK FOR CONTINUITY BETWEEN PLUG 057P1 PIN C AND PLUG 057P6 PIN 18. IS CONTINUITY PRESENT?
YES
NO
CHECK FOR CONTINUITY BETWEEN FUEL QUANTITY SWITCH BOX RECEPTACLE J3 PINS 18 AND 20. IS CONTINUITY PRESENT?
YES
NO
REPLACE FUEL QUANTITY SELECT SWITCH
LOCATE OPEN IN WIRE W557-134, W645-51, OR W625-1 BETWEEN PLUG 057P1 AND PLUG 057P6. REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE FUEL QUANTITY SWITCH BOX
REMOVE ELECT PWR. DISCONNECT PLUG 057P6 FROM FUEL QUANTITY SWITCH BOX. OPEN L AFT INTERTANK DOOR AND DISCONNECT PLUG AT L AFT AUX TANK FWD ACCESS DOOR. CHECK FOR CONTINUITY BETWEEN PLUG 057P6 PIN 20 AND L AFT AUX TANK PLUG PIN K. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W625-28 BETWEEN PLUG 057P6 AND PLUG AT L AFT AUX TANK. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR CONTINUITY BETWEEN PLUG 057P6 PIN 8 AND PLUG AT L AFT AUX TANK PIN M. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W625-91-22, OR W625-27-22 BETWEEN PLUG 057P6 AND PLUG AT L AFT AUX TANK. REPAIR OR REPLACE WIRES AS REQUIRED
YES
REMOVE L AFT AUX TANK PROBE AND REPAIR OR REPLACE WIRE FROM PROBE TO FUEL TANK DOOR

END OF TASK

8-11.10 NO FUEL QUANTITY INDICATION WHEN FUEL QUANTITY SELECT SWITCH IS SET TO R MAIN

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

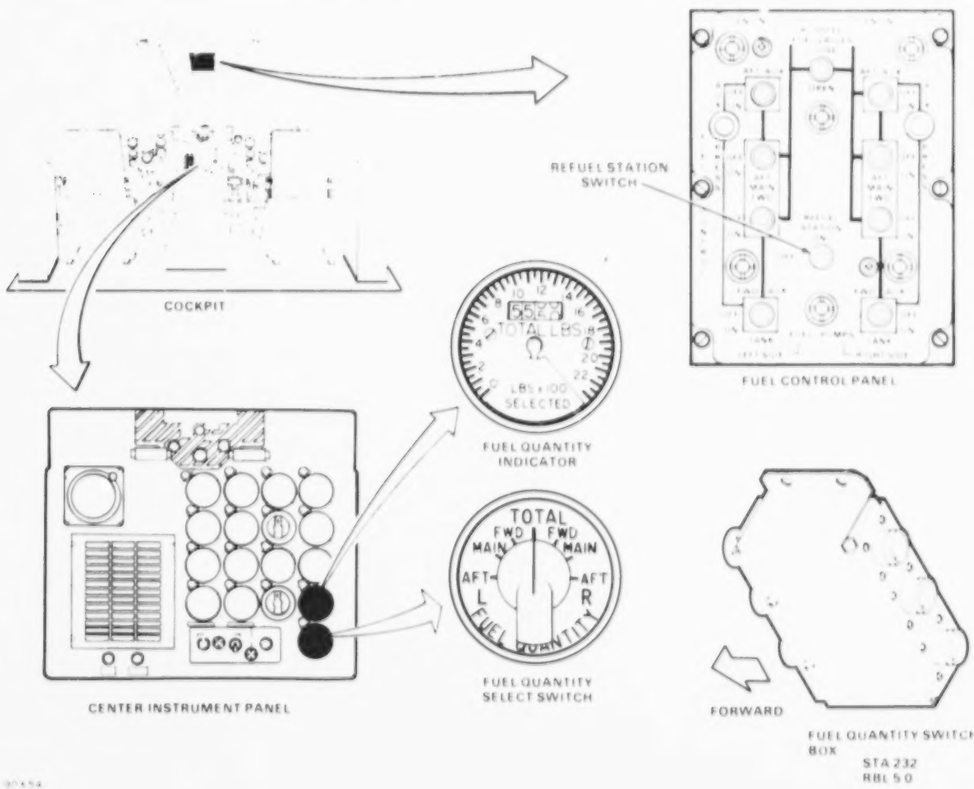
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

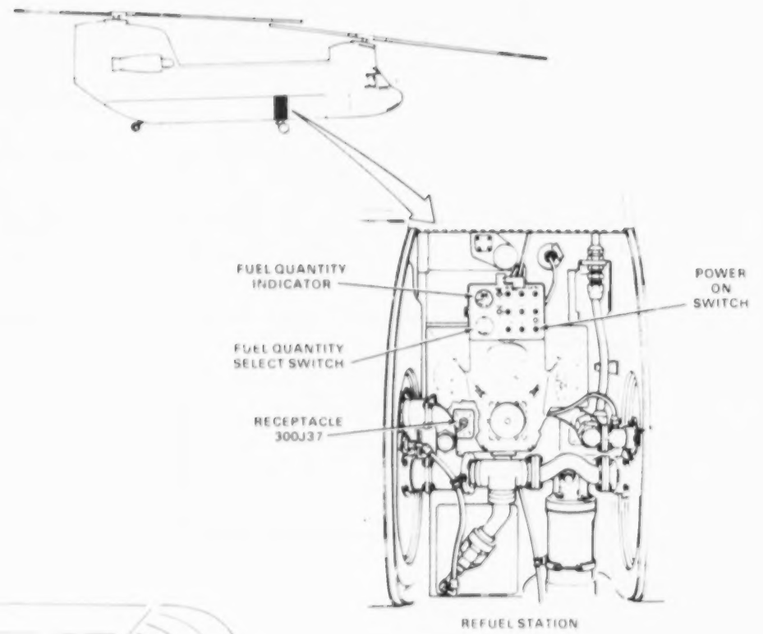
Materials:
None

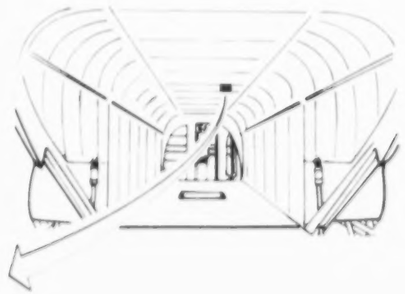
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
Battery Connected
Electrical Power On
Hydraulic Power Off







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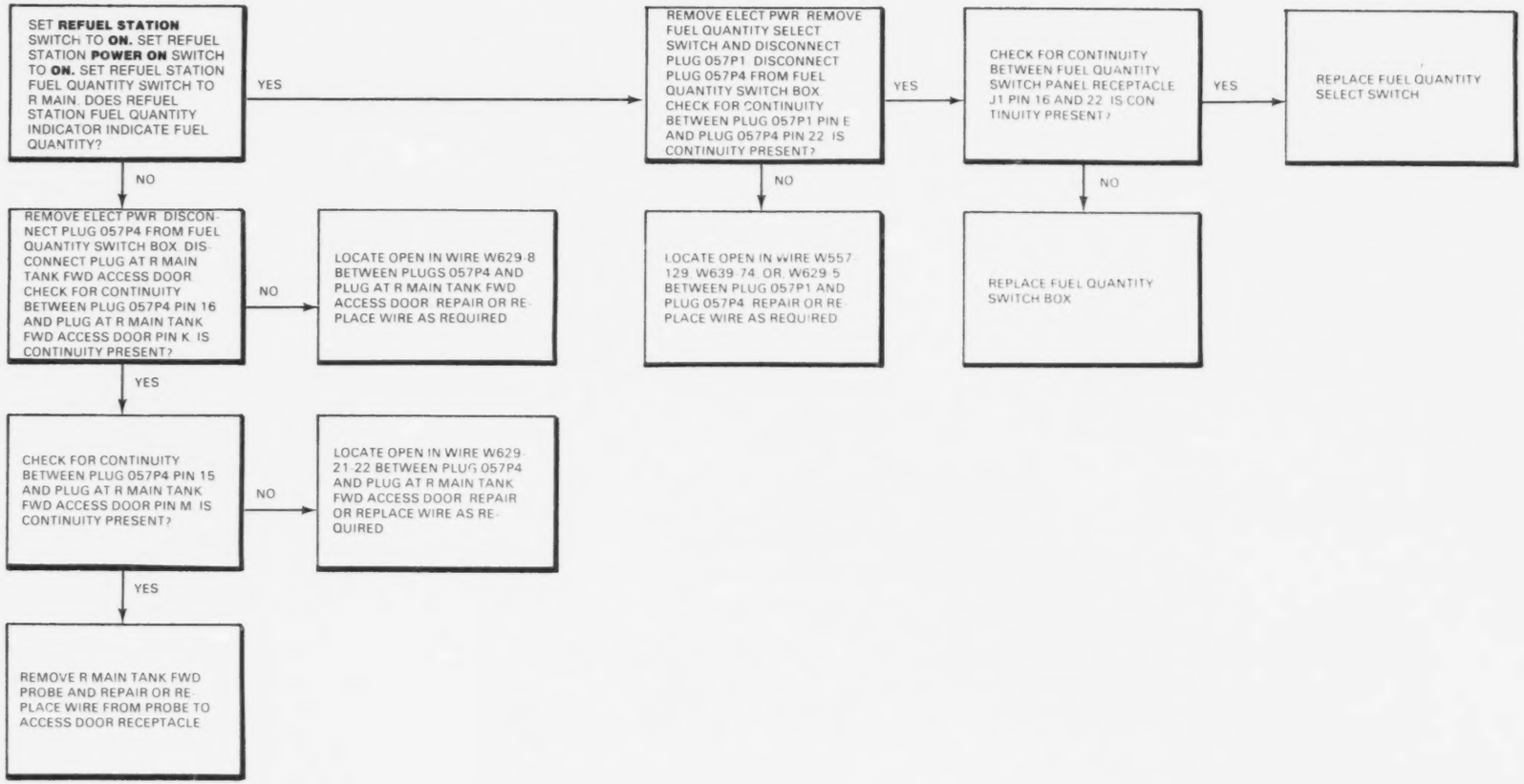
8-11.10 FUEL QUANTITY INDICATION WHEN FUEL QUANTITY SELECT SWITCH IS SET TO R MAIN (Continued)


SET **REFUEL STATION** SWITCH TO **ON.** SET REFUEL STATION **POWER ON** SWITCH TO **ON.** SET REFUEL STATION FUEL QUANTITY SWITCH TO R MAIN. DOES REFUEL STATION FUEL QUANTITY INDICATOR INDICATE FUEL QUANTITY?
YES
NO
REMOVE ELECT PWR. DISCONNECT PLUG 057P4 FROM FUEL QUANTITY SWITCH BOX. DISCONNECT PLUG AT R MAIN TANK FWD ACCESS DOOR. CHECK FOR CONTINUITY BETWEEN PLUG 057P4 PIN 16 AND PLUG AT R MAIN TANK FWD ACCESS DOOR PIN K. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W629-8 BETWEEN PLUGS 057P4 AND PLUG AT R MAIN TANK FWD ACCESS DOOR. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR CONTINUITY BETWEEN PLUG 057P4 PIN 15 AND PLUG AT R MAIN TANK FWD ACCESS DOOR PIN M. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W629-21-22 BETWEEN PLUG 057P4 AND PLUG AT R MAIN TANK FWD ACCESS DOOR. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE R MAIN TANK FWD PROBE AND REPAIR OR REPLACE WIRE FROM PROBE TO ACCESS DOOR RECEPTACLE
REMOVE ELECT PWR. REMOVE FUEL QUANTITY SELECT SWITCH AND DISCONNECT PLUG 057P1. DISCONNECT PLUG 057P4 FROM FUEL QUANTITY SWITCH BOX. CHECK FOR CONTINUITY BETWEEN PLUG 057P1 PIN E AND PLUG 057P4 PIN 22. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-129, W639-74, OR W629-5 BETWEEN PLUG 057P1 AND PLUG 057P4. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR CONTINUITY BETWEEN FUEL QUANTITY SWITCH PANEL RECEPTACLE J1 PIN 16 AND 22. IS CONTINUITY PRESENT?
YES
NO
REPLACE FUEL QUANTITY SWITCH BOX
REPLACE FUEL QUANTITY SELECT SWITCH

END OF TASK

8-11.11 NO FUEL QUANTITY INDICATION WHEN FUEL QUANTITY SELECT SWITCH IS SET TO R FWD

FAULT ISOLATION PROCEDURE

INITIAL SETUP

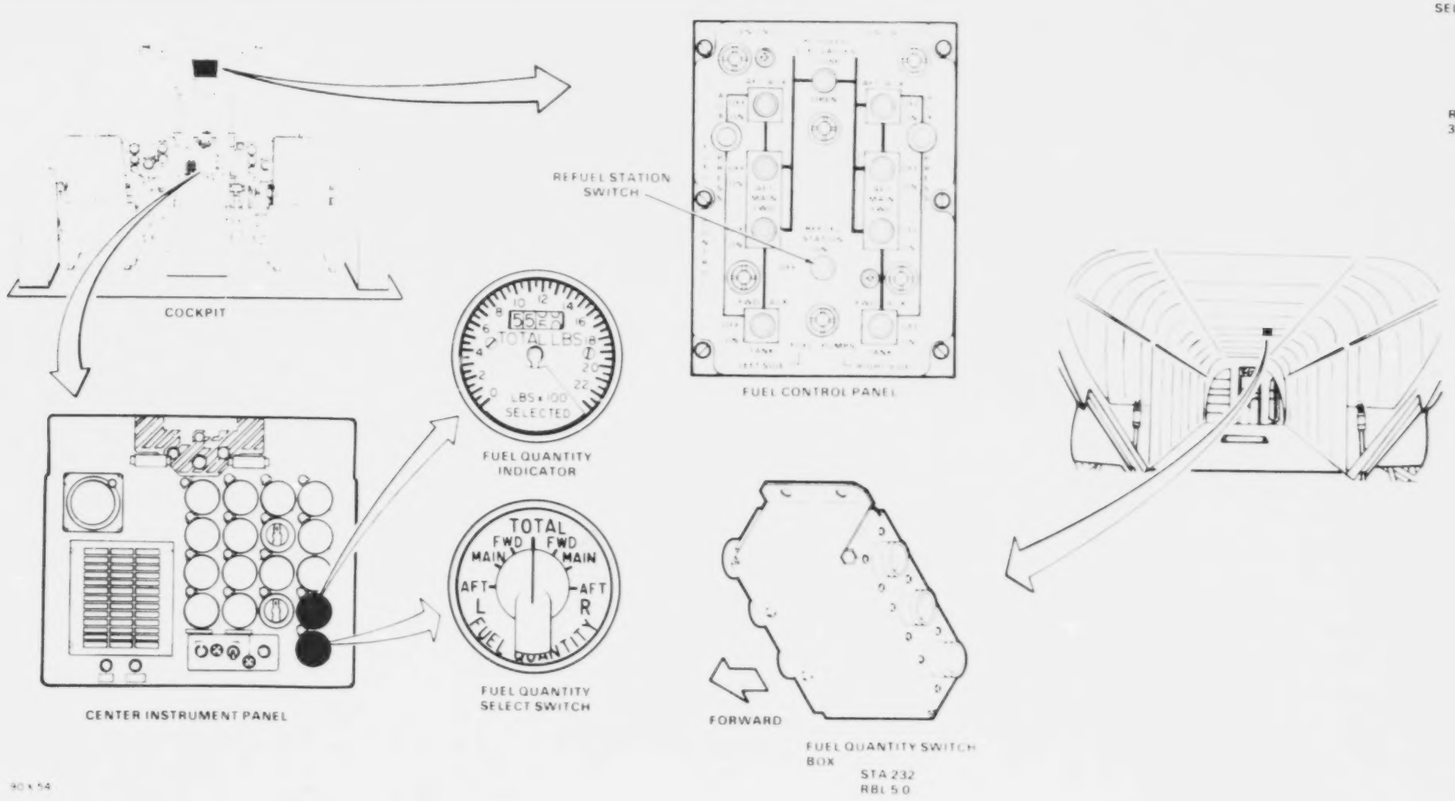
Applicable Configurations:
All

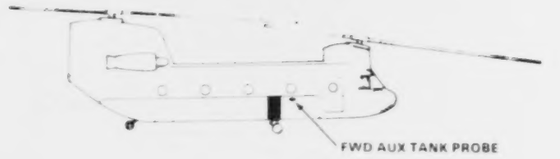
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

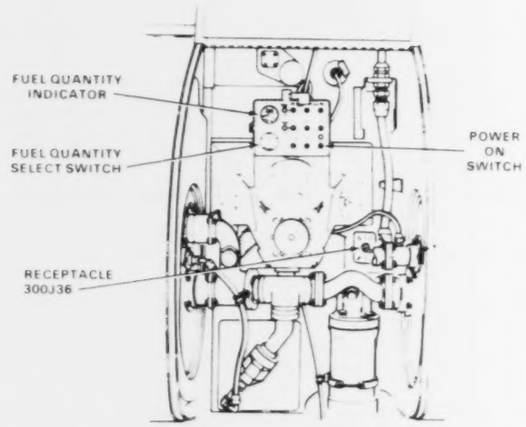
Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

Equipment Condition:
Battery Connected
Electrical Power On
Hydraulic Power Off
Right Forward Landing Gear Access Panel Open







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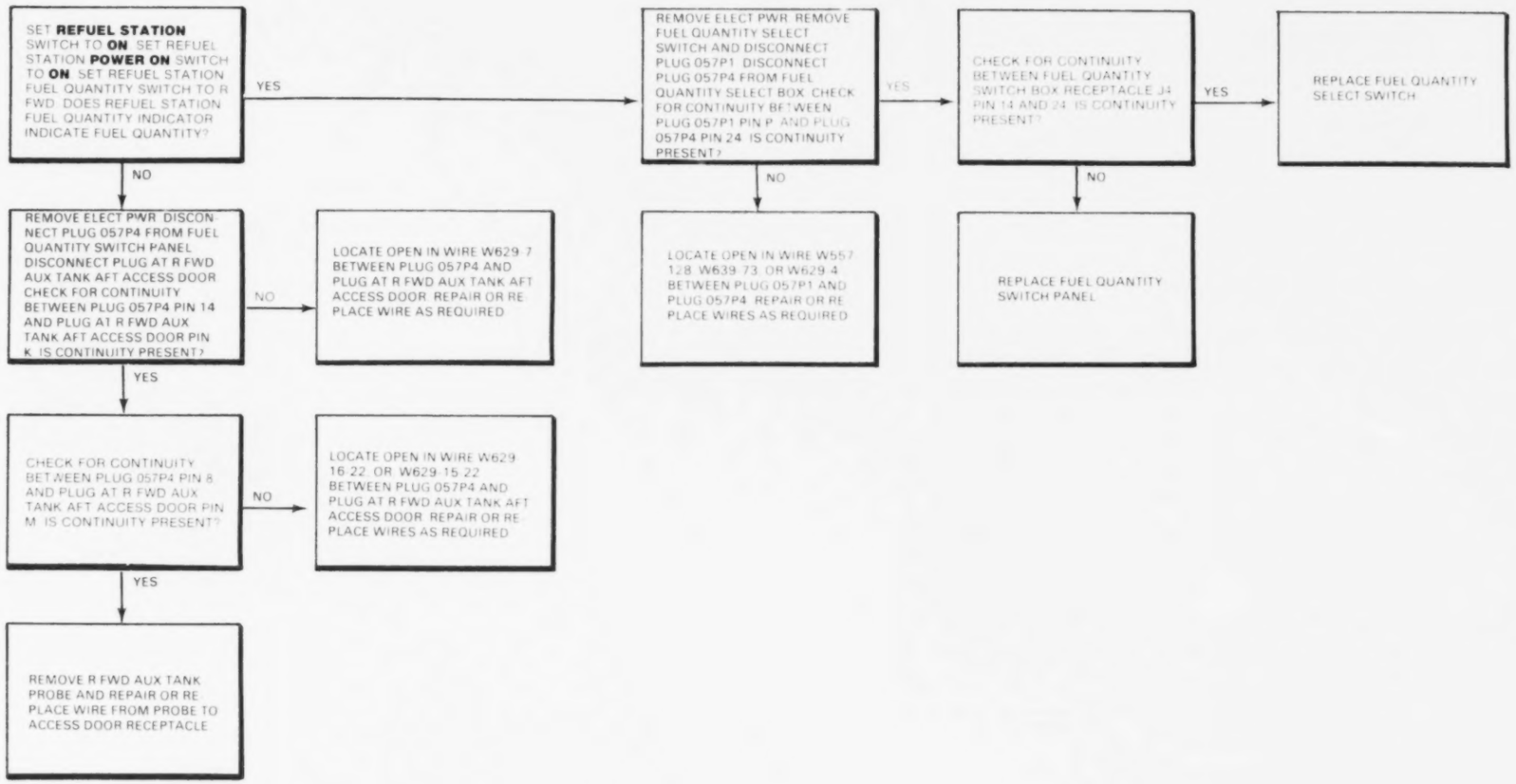
8-11.11 FUEL QUANTITY INDICATION WHEN FUEL QUANTITY SELECT SWITCH IS SET TO R FWD (Continued)


SET **REFUEL STATION** SWITCH TO **ON**. SET REFUEL STATION **POWER ON** SWITCH TO **ON**. SET REFUEL STATION FUEL QUANTITY SWITCH TO R FWD. DOES REFUEL STATION FUEL QUANTITY INDICATOR INDICATE FUEL QUANTITY?
YES
NO
REMOVE ELECT PWR. DISCONNECT PLUG 057P4 FROM FUEL QUANTITY SWITCH PANEL. DISCONNECT PLUG AT R FWD AUX TANK AFT ACCESS DOOR. CHECK FOR CONTINUITY BETWEEN PLUG 057P4 PIN 14 AND PLUG A1 R FWD AUX TANK AFT ACCESS DOOR PIN K. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W629-7 BETWEEN PLUG 057P4 AND PLUG AT R FWD AUX TANK AFT ACCESS DOOR. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR CONTINUITY BETWEEN PLUG 057P4 PIN 8 AND PLUG AT R FWD AUX TANK AFT ACCESS DOOR PIN M. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W629-16-22, OR W629-15-22 BETWEEN PLUG 057P4 AND PLUG AT R FWD AUX TANK AFT ACCESS DOOR. REPAIR OR REPLACE WIRES AS REQUIRED.
YES
REMOVE R FWD AUX TANK PROBE AND REPAIR OR REPLACE WIRE FROM PROBE TO ACCESS DOOR RECEPTACLE.
REMOVE ELECT PWR. REMOVE FUEL QUANTITY SELECT SWITCH AND DISCONNECT PLUG 057P1. DISCONNECT PLUG 057P4 FROM FUEL QUANTITY SELECT BOX. CHECK FOR CONTINUITY BETWEEN PLUG 057P1 PIN P AND PLUG 057P4 PIN 24. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-128, W639-73, OR W629-4 BETWEEN PLUG 057P1 AND PLUG 057P4. REPAIR OR REPLACE WIRES AS REQUIRED.
CHECK FOR CONTINUITY BETWEEN FUEL QUANTITY SWITCH BOX RECEPTACLE J4 PIN 14 AND 24. IS CONTINUITY PRESENT?
YES
NO
REPLACE FUEL QUANTITY SWITCH PANEL.
REPLACE FUEL QUANTITY SELECT SWITCH.

END OF TASK

8-11.12 NO FUEL QUANTITY INDICATION WHEN FUEL QUANTITY SELECT SWITCH IS SET TO R AFT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

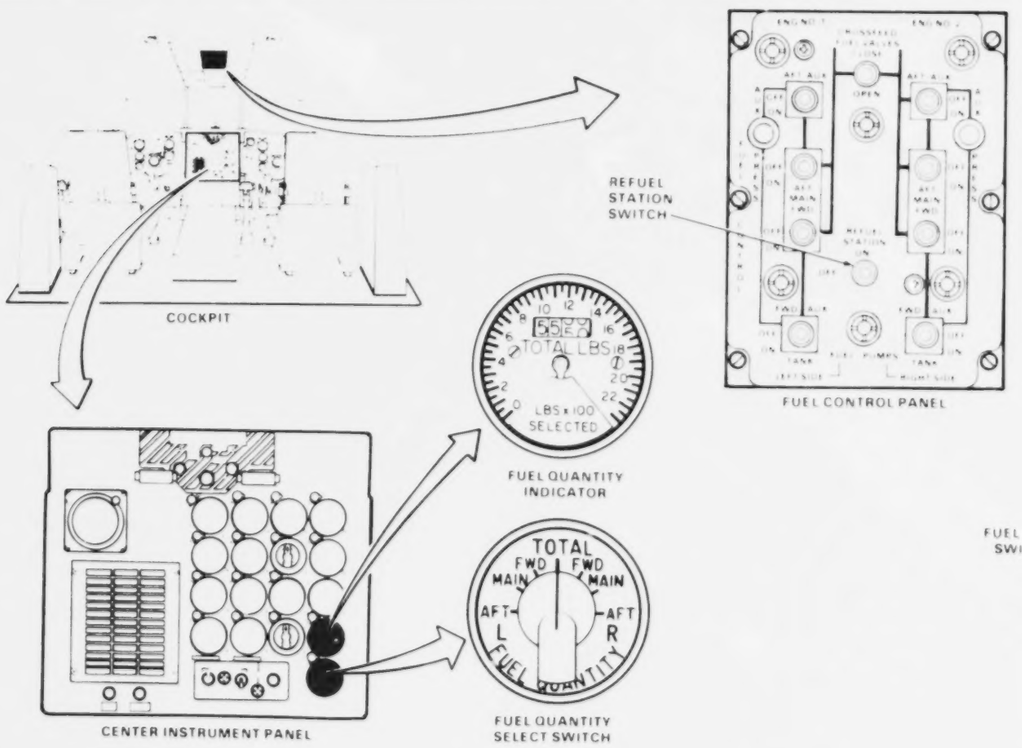
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

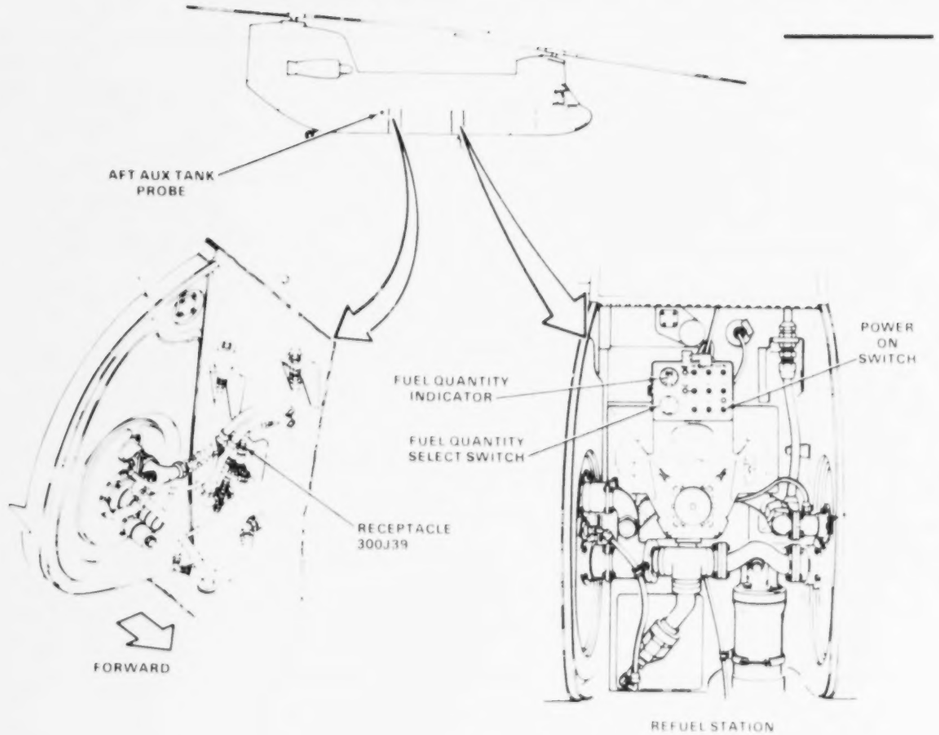
Materials:
None

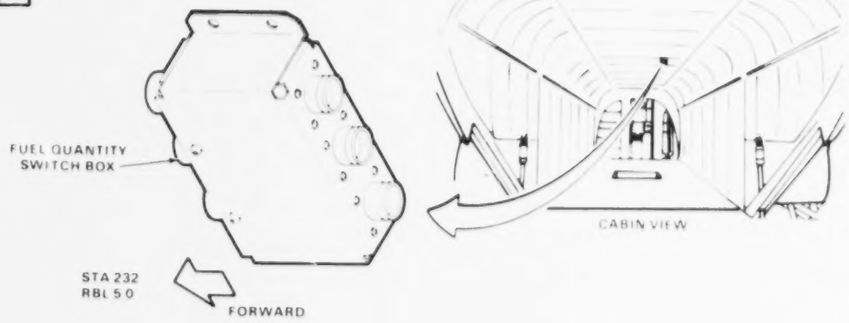
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
Battery Connected
Electrical Power On
Hydraulic Power Off
Right Forward Landing Gear Access Panel Open







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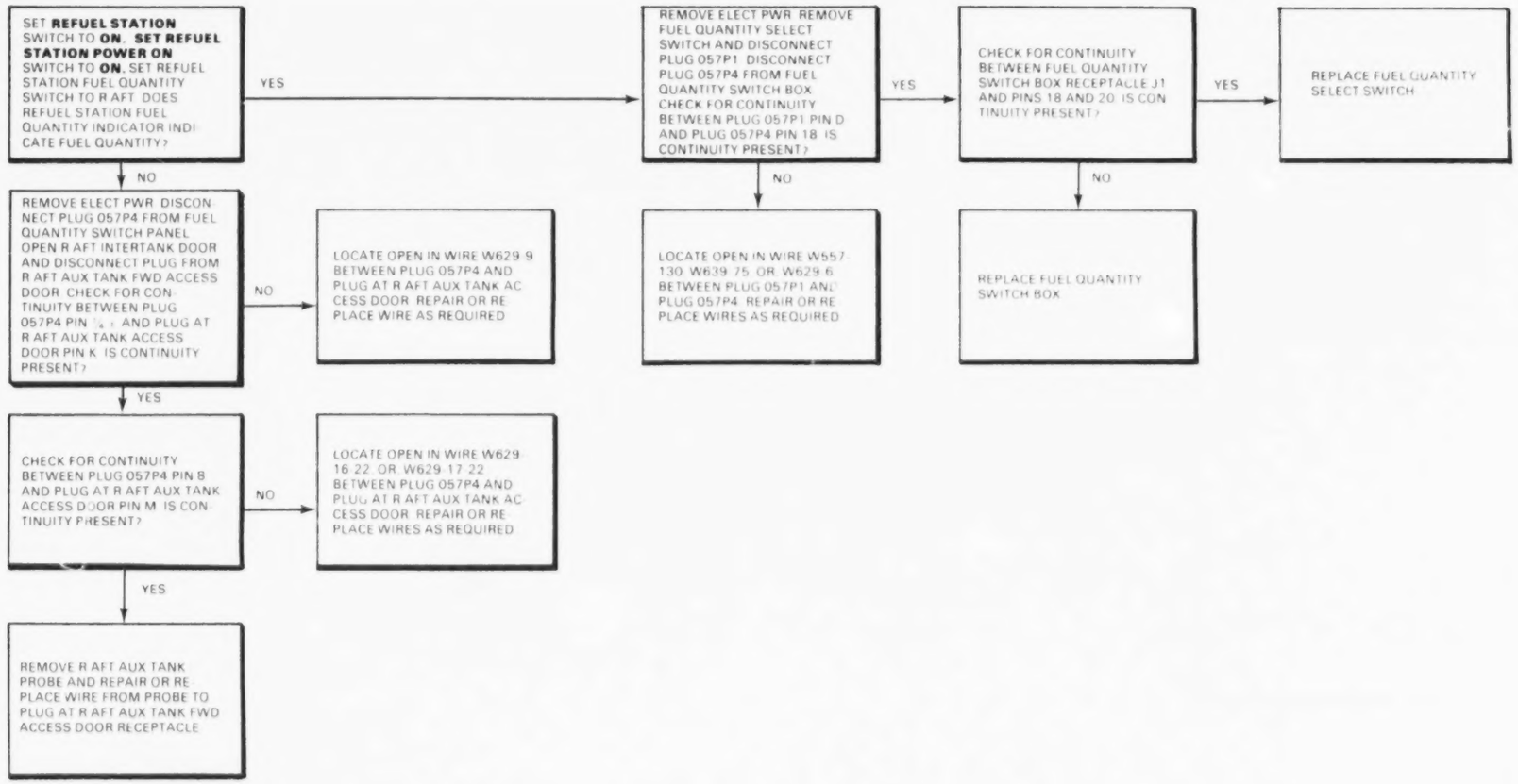
8-11.12 FUEL QUANTITY INDICATION WHEN FUEL QUANTITY SELECT SWITCH IS SET TO R AFT (Continued)


SET REFUEL STATION SWITCH TO ON. SET REFUEL STATION POWER ON SWITCH TO ON. SET REFUEL STATION FUEL QUANTITY SWITCH TO R AFT. DOES REFUEL STATION FUEL QUANTITY INDICATOR INDICATE FUEL QUANTITY?
YES
NO
REMOVE ELECT PWR. DISCONNECT PLUG 057P4 FROM FUEL QUANTITY SWITCH PANEL. OPEN R AFT INTERTANK DOOR AND DISCONNECT PLUG FROM R AFT AUX TANK FWD ACCESS DOOR. CHECK FOR CONTINUITY BETWEEN PLUG 057P4 PIN J AND PLUG AT R AFT AUX TANK ACCESS DOOR PIN K. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W629-9 BETWEEN PLUG 057P4 AND PLUG AT R AFT AUX TANK ACCESS DOOR. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR CONTINUITY BETWEEN PLUG 057P4 PIN B AND PLUG AT R AFT AUX TANK ACCESS DOOR PIN M. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W629-16-22 OR W629-17-22 BETWEEN PLUG 057P4 AND PLUG AT R AFT AUX TANK ACCESS DOOR. REPAIR OR REPLACE WIRES AS REQUIRED
YES
REMOVE R AFT AUX TANK PROBE AND REPAIR OR REPLACE WIRE FROM PROBE TO PLUG AT R AFT AUX TANK FWD ACCESS DOOR RECEPTACLE
REMOVE ELECT PWR. REMOVE FUEL QUANTITY SELECT SWITCH AND DISCONNECT PLUG 057P1. DISCONNECT PLUG 057P4 FROM FUEL QUANTITY SWITCH BOX. CHECK FOR CONTINUITY BETWEEN PLUG 057P1 PIN D AND PLUG 057P4 PIN 18. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-130, W639-75, OR W629-6 BETWEEN PLUG 057P1 AND PLUG 057P4. REPAIR OR REPLACE WIRES AS REQUIRED
CHECK FOR CONTINUITY BETWEEN FUEL QUANTITY SWITCH BOX RECEPTACLE J1 AND PINS 18 AND 20. IS CONTINUITY PRESENT?
YES
NO
REPLACE FUEL QUANTITY SWITCH BOX
REPLACE FUEL QUANTITY SELECT SWITCH

END OF TASK

8-11.13 FUEL QUANTITY INDICATOR DIGITAL READOUT DOES NOT SHOW TOTAL FUEL QUANTITY WHEN FUEL QUANTITY SELECT SWITCH IS SET TO TOTAL

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

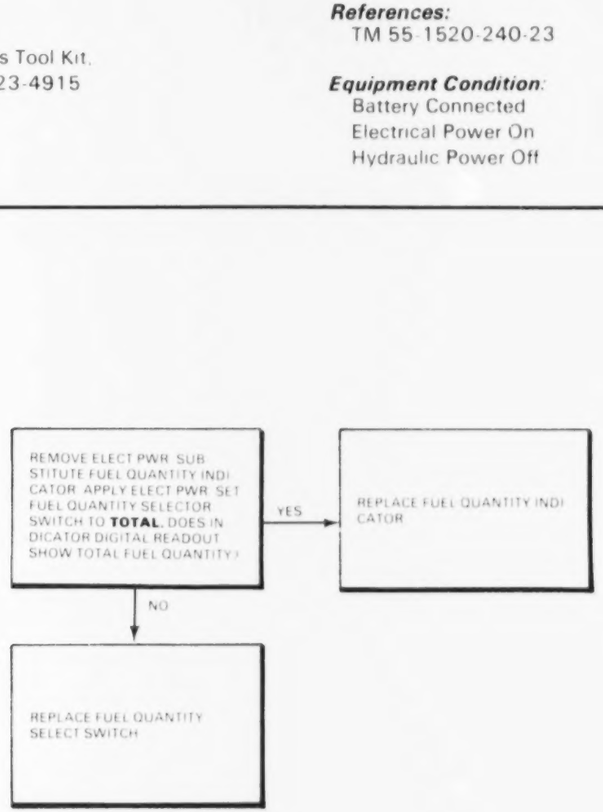
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

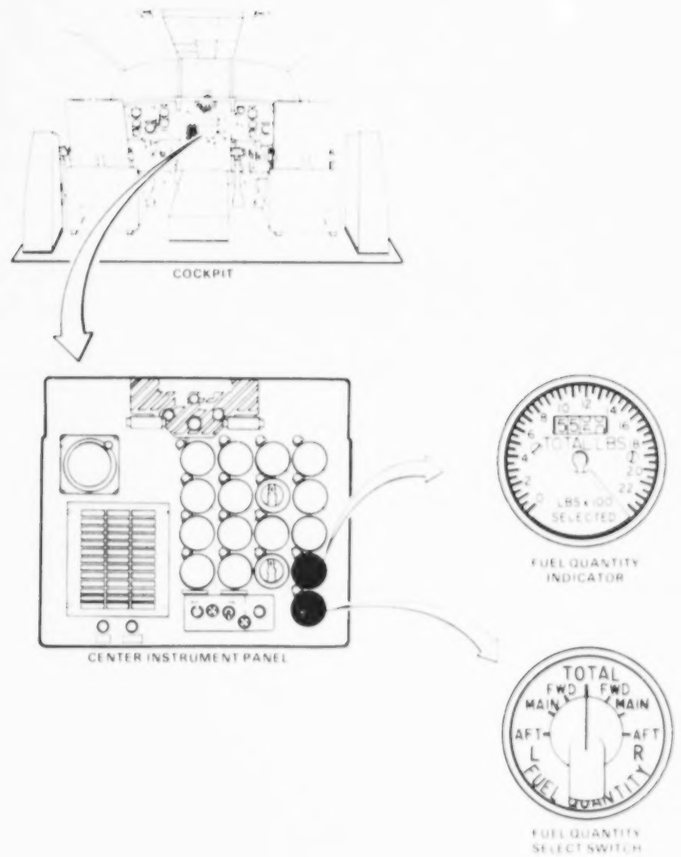
Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
Battery Connected
Electrical Power On
Hydraulic Power Off


REMOVE ELECT PWR SUB STITUTE FUEL QUANTITY INDI CATOR APPLY ELECT PWR SET FUEL QUANTITY SELECTOR SWITCH TO **TOTAL** DOES IN DICATOR DIGITAL READOUT SHOW TOTAL FUEL QUANTITY?
YES
REPLACE FUEL QUANTITY INDI CATOR
NO
REPLACE FUEL QUANTITY SELECT SWITCH



END OF TASK

8-11.14 L FUEL LOW WARNING CAPSULE ON WHEN L MAIN FUEL TANK IS FULL

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

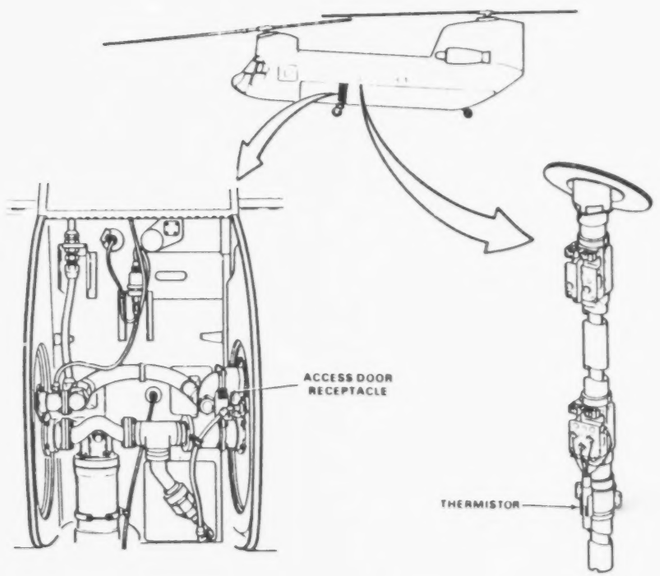
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



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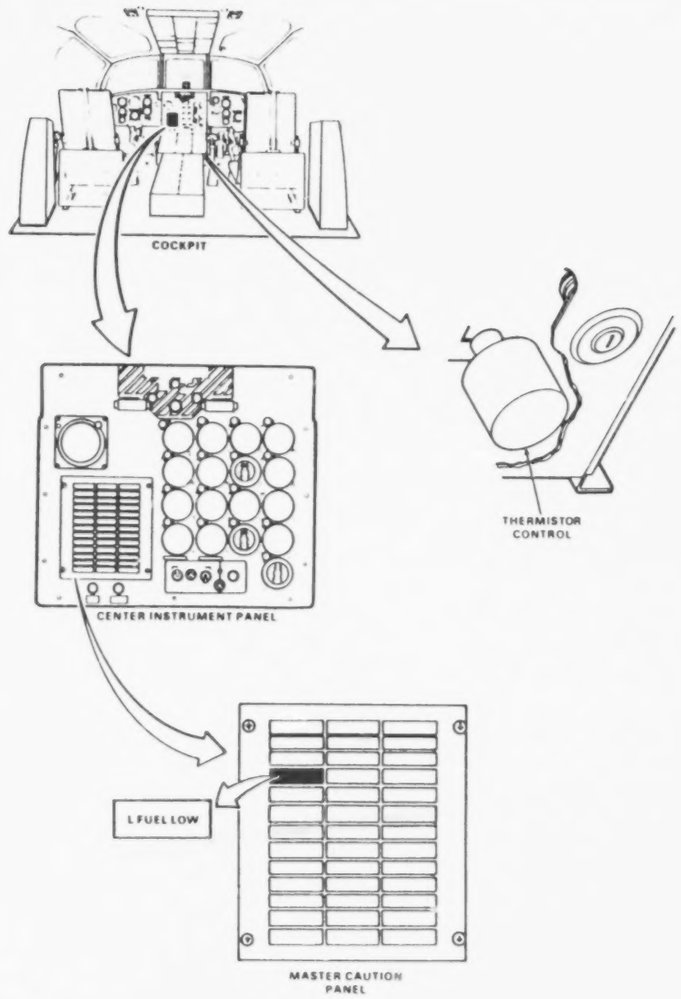

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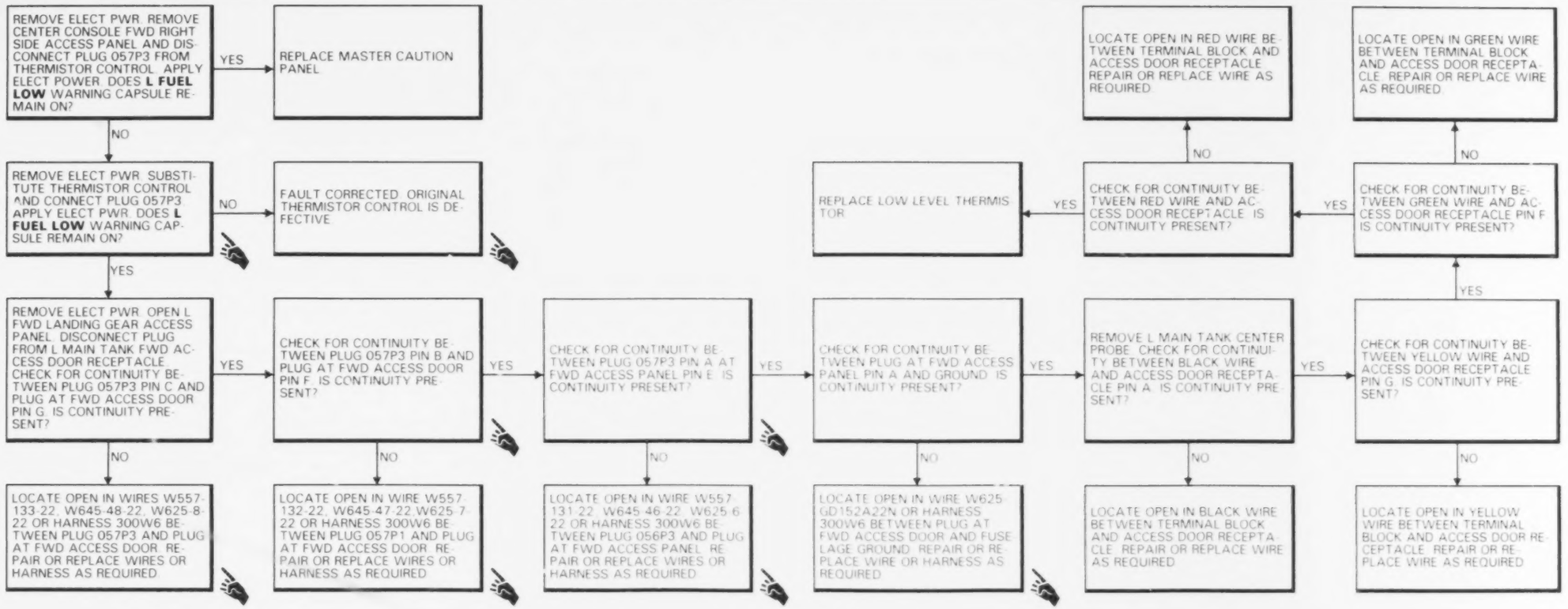

REMOVE ELECT PWR. REMOVE CENTER CONSOLE FWD RIGHT SIDE ACCESS PANEL AND DISCONNECT PLUG 057P3 FROM THERMISTOR CONTROL. APPLY ELECT POWER. DOES **L FUEL LOW** WARNING CAPSULE REMAIN ON?
YES
REPLACE MASTER CAUTION PANEL
NO
REMOVE ELECT PWR. SUBSTITUTE THERMISTOR CONTROL AND CONNECT PLUG 057P3 APPLY ELECT PWR. DOES **L FUEL LOW** WARNING CAPSULE REMAIN ON?
NO
FAULT CORRECTED. ORIGINAL THERMISTOR CONTROL IS DEFECTIVE
YES
REMOVE ELECT PWR. OPEN L FWD LANDING GEAR ACCESS PANEL. DISCONNECT PLUG FROM L MAIN TANK FWD ACCESS DOOR RECEPTACLE. CHECK FOR CONTINUITY BETWEEN PLUG 057P3 PIN C AND PLUG AT FWD ACCESS DOOR PIN G. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 057P3 PIN B AND PLUG AT FWD ACCESS DOOR PIN F. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 057P3 PIN A AT FWD ACCESS PANEL PIN E. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG AT FWD ACCESS PANEL PIN A AND GROUND. IS CONTINUITY PRESENT?
YES
REMOVE L MAIN TANK CENTER PROBE. CHECK FOR CONTINUITY BETWEEN BLACK WIRE AND ACCESS DOOR RECEPTACLE PIN A. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN YELLOW WIRE AND ACCESS DOOR RECEPTACLE PIN G. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRES W557-133-22, W645-48-22, W625-8-22 OR HARNESS 300W6 BETWEEN PLUG 057P3 AND PLUG AT FWD ACCESS DOOR. REPAIR OR REPLACE WIRES OR HARNESS AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-132-22, W645-47-22,W625-7-22 OR HARNESS 300W6 BETWEEN PLUG 057P1 AND PLUG AT FWD ACCESS DOOR. REPAIR OR REPLACE WIRES OR HARNESS AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-131-22, W645-46-22, W625-6-22 OR HARNESS 300W6 BETWEEN PLUG 056P3 AND PLUG AT FWD ACCESS PANEL. REPAIR OR REPLACE WIRES OR HARNESS AS REQUIRED
NO
LOCATE OPEN IN WIRE W625-GD152A22N OR HARNESS 300W6 BETWEEN PLUG AT FWD ACCESS DOOR AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE OR HARNESS AS REQUIRED
REPLACE LOW LEVEL THERMISTOR
YES
CHECK FOR CONTINUITY BETWEEN RED WIRE AND ACCESS DOOR RECEPTACLE. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN RED WIRE BETWEEN TERMINAL BLOCK AND ACCESS DOOR RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN BLACK WIRE BETWEEN TERMINAL BLOCK AND ACCESS DOOR RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR CONTINUITY BETWEEN GREEN WIRE AND ACCESS DOOR RECEPTACLE PIN F. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN GREEN WIRE BETWEEN TERMINAL BLOCK AND ACCESS DOOR RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN YELLOW WIRE BETWEEN TERMINAL BLOCK AND ACCESS DOOR RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-11.15 R FUEL LOW WARNING CAPSULE ON WHEN R MAIN FUEL TANK IS FULL

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

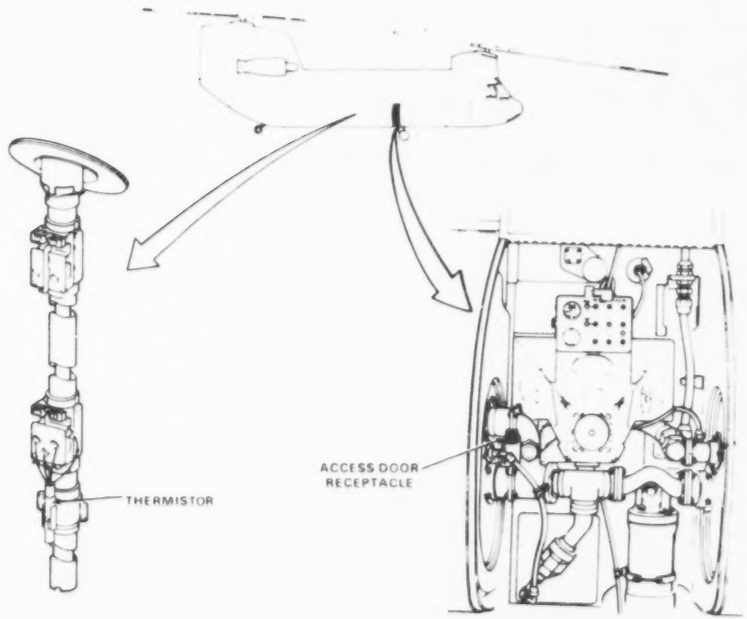
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



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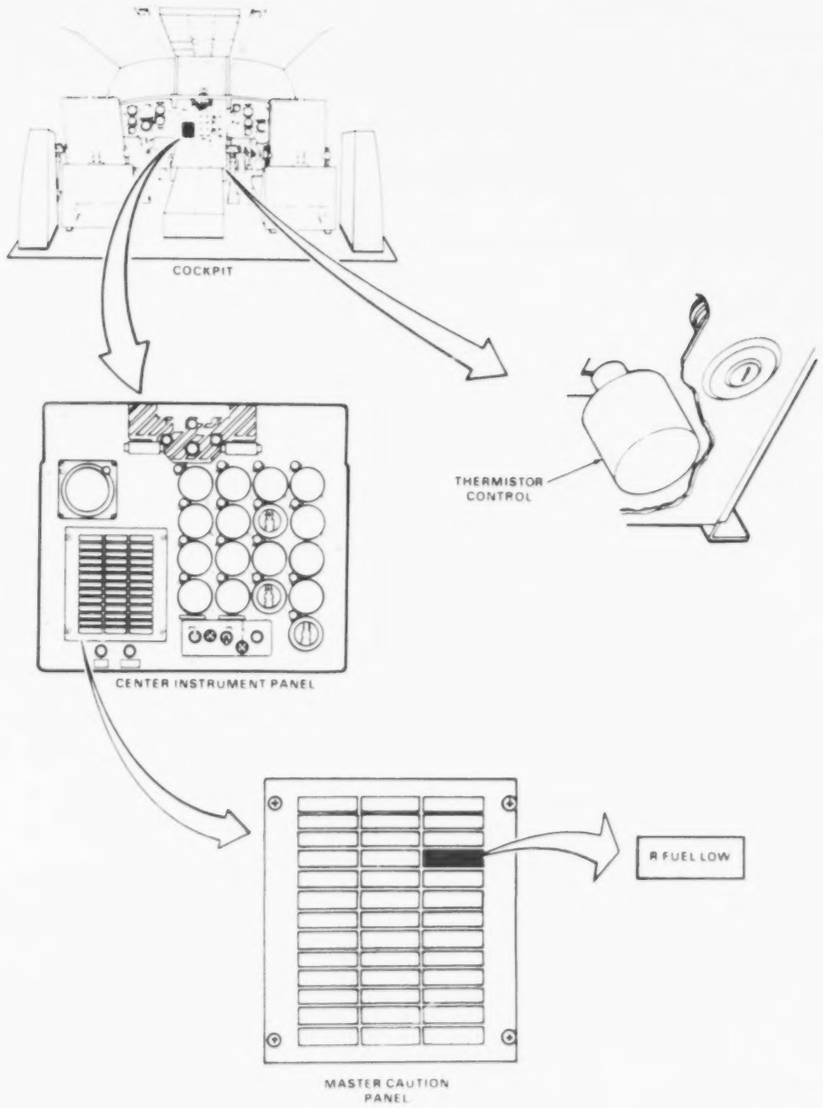

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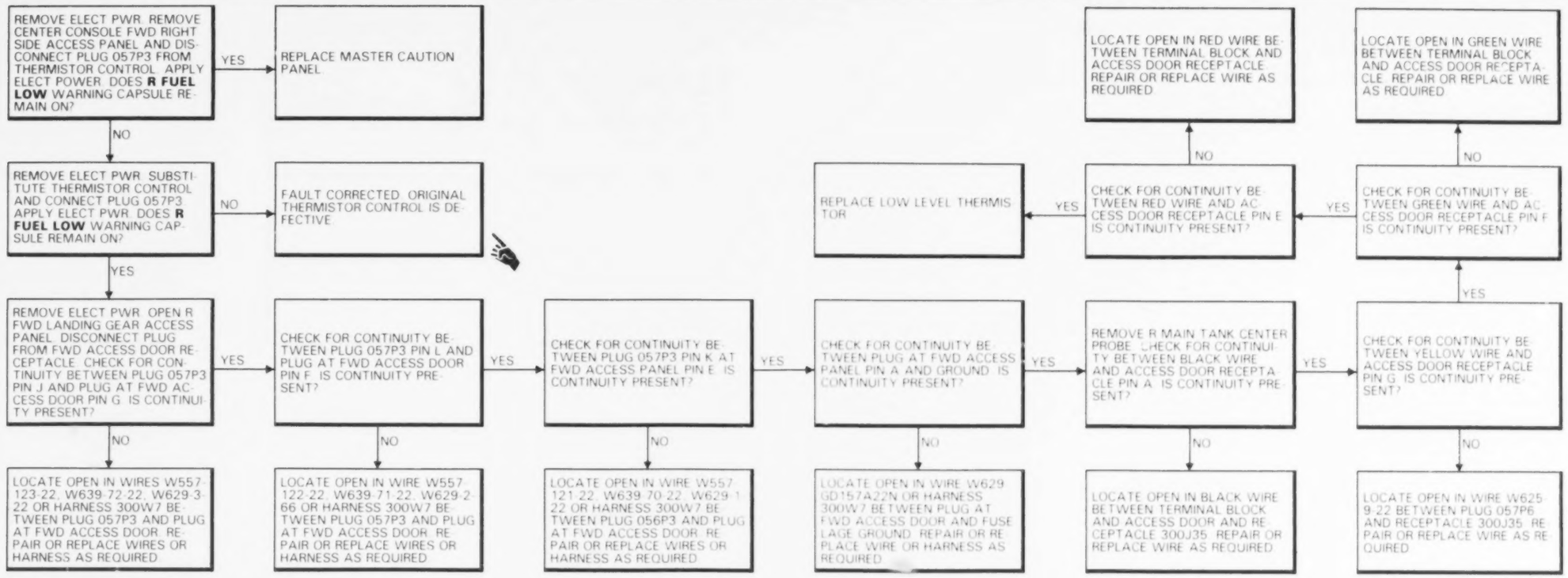
8-11.15 R FUEL LOW WARNING CAPSULE ON WHEN R MAIN FUEL TANK IS FULL (Continued)


REMOVE ELECT PWR. REMOVE CENTER CONSOLE FWD RIGHT SIDE ACCESS PANEL AND DISCONNECT PLUG 057P3 FROM THERMISTOR CONTROL. APPLY ELECT POWER. DOES **R FUEL LOW** WARNING CAPSULE REMAIN ON?
YES
REPLACE MASTER CAUTION PANEL
NO
REMOVE ELECT PWR. SUBSTITUTE THERMISTOR CONTROL AND CONNECT PLUG 057P3. APPLY ELECT PWR. DOES **R FUEL LOW** WARNING CAPSULE REMAIN ON?
NO
FAULT CORRECTED. ORIGINAL THERMISTOR CONTROL IS DEFECTIVE
YES
REMOVE ELECT PWR. OPEN R FWD LANDING GEAR ACCESS PANEL. DISCONNECT PLUG FROM FWD ACCESS DOOR RECEPTACLE. CHECK FOR CONTINUITY BETWEEN PLUG 057P3 PIN J AND PLUG AT FWD ACCESS DOOR PIN G. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 057P3 PIN L AND PLUG AT FWD ACCESS DOOR PIN F. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 057P3 PIN K AT FWD ACCESS PANEL PIN E. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG AT FWD ACCESS PANEL PIN A AND GROUND. IS CONTINUITY PRESENT?
YES
REMOVE R MAIN TANK CENTER PROBE. CHECK FOR CONTINUITY BETWEEN BLACK WIRE AND ACCESS DOOR RECEPTACLE PIN A. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN YELLOW WIRE AND ACCESS DOOR RECEPTACLE PIN G. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN GREEN WIRE AND ACCESS DOOR RECEPTACLE PIN F. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN RED WIRE AND ACCESS DOOR RECEPTACLE PIN E. IS CONTINUITY PRESENT?
YES
REPLACE LOW LEVEL THERMISTOR
NO
LOCATE OPEN IN RED WIRE BETWEEN TERMINAL BLOCK AND ACCESS DOOR RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN GREEN WIRE BETWEEN TERMINAL BLOCK AND ACCESS DOOR RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRES W557-123-22, W639-72-22, W629-3-22 OR HARNESS 300W7 BETWEEN PLUG 057P3 AND PLUG AT FWD ACCESS DOOR. REPAIR OR REPLACE WIRES OR HARNESS AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-122-22, W639-71-22, W629-2-66 OR HARNESS 300W7 BETWEEN PLUG 057P3 AND PLUG AT FWD ACCESS DOOR. REPAIR OR REPLACE WIRES OR HARNESS AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-121-22, W639-70-22, W629-1-22 OR HARNESS 300W7 BETWEEN PLUG 056P3 AND PLUG AT FWD ACCESS DOOR. REPAIR OR REPLACE WIRES OR HARNESS AS REQUIRED
NO
LOCATE OPEN IN WIRE W629-GD157A22N OR HARNESS 300W7 BETWEEN PLUG AT FWD ACCESS DOOR AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE OR HARNESS AS REQUIRED
NO
LOCATE OPEN IN BLACK WIRE BETWEEN TERMINAL BLOCK AND ACCESS DOOR AND RECEPTACLE 300J35. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W625-9-22 BETWEEN PLUG 057P6 AND RECEPTACLE 300J35. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-11.16 L FUEL LOW CAUTION CAPSULE DOES NOT COME ON WHEN L MAIN TANK FUEL LEVEL IS BELOW 320 TO 420 POUNDS

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

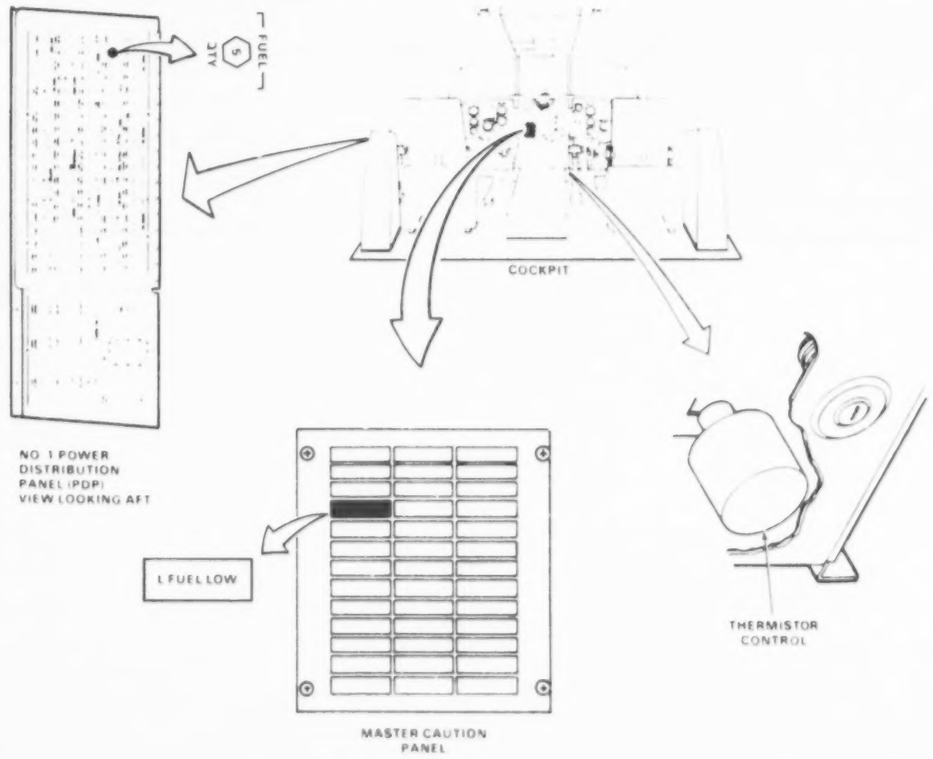
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

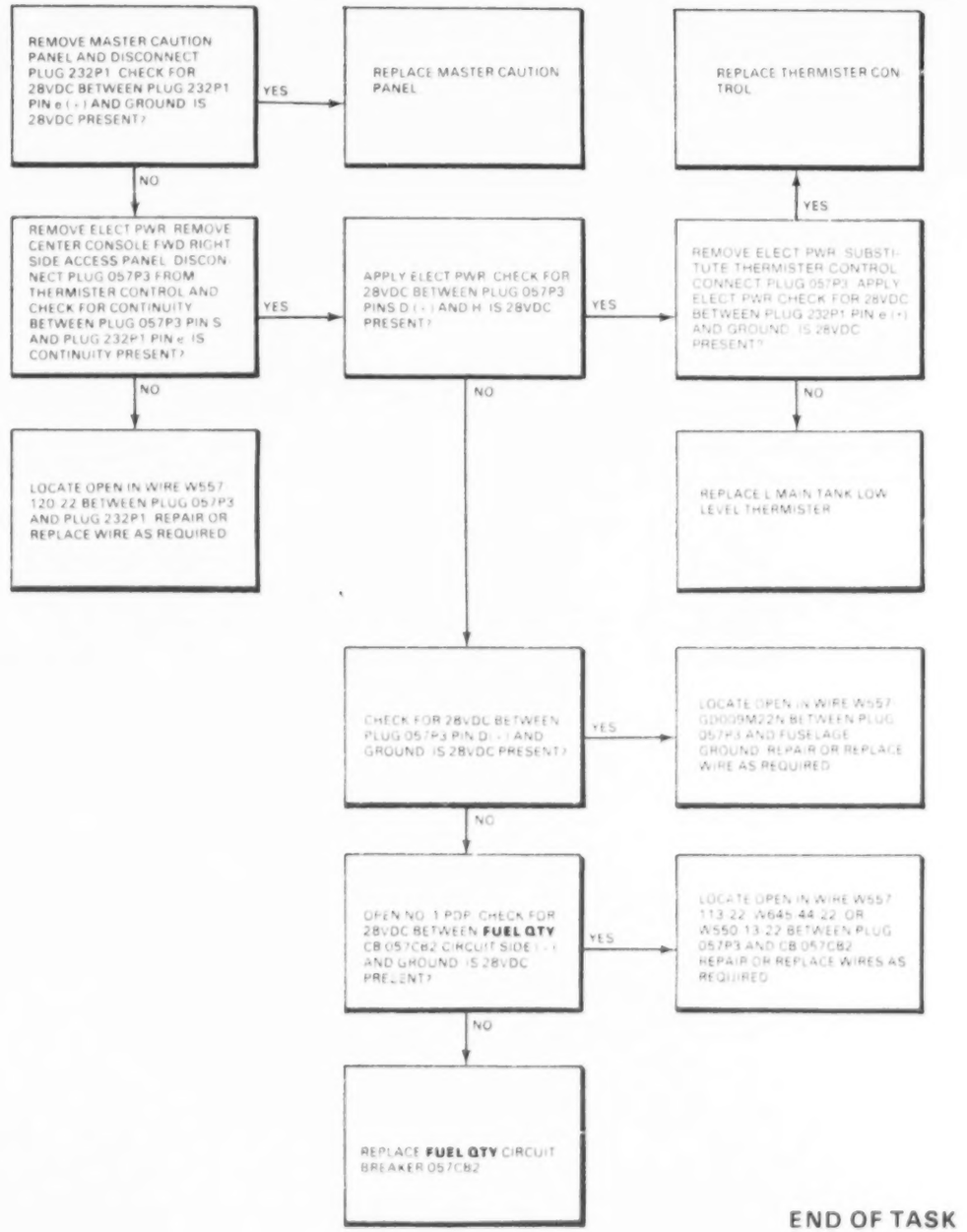
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
Battery Connected
Electrical Power On
Hydraulic Power Off




REMOVE MASTER CAUTION PANEL AND DISCONNECT PLUG 232P1. CHECK FOR 28VDC BETWEEN PLUG 232P1 PIN e (+) AND GROUND. IS 28VDC PRESENT?
YES
REPLACE MASTER CAUTION PANEL
NO
REMOVE ELECT PWR. REMOVE CENTER CONSOLE FWD RIGHT SIDE ACCESS PANEL. DISCONNECT PLUG 057P3 FROM THERMISTER CONTROL AND CHECK FOR CONTINUITY BETWEEN PLUG 057P3 PIN S AND PLUG 232P1 PIN e. IS CONTINUITY PRESENT?
YES
APPLY ELECT PWR. CHECK FOR 28VDC BETWEEN PLUG 057P3 PINS D (-) AND H. IS 28VDC PRESENT?
YES
REMOVE ELECT PWR. SUBSTITUTE THERMISTER CONTROL. CONNECT PLUG 057P3. APPLY ELECT PWR. CHECK FOR 28VDC BETWEEN PLUG 232P1 PIN e (+) AND GROUND. IS 28VDC PRESENT?
YES
REPLACE THERMISTER CONTROL
NO
REPLACE L MAIN TANK LOW LEVEL THERMISTER
NO
LOCATE OPEN IN WIRE W557 120-22 BETWEEN PLUG 057P3 AND PLUG 232P1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
CHECK FOR 28VDC BETWEEN PLUG 057P3 PIN D (-) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W557 GD009M22N BETWEEN PLUG 057P3 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
OPEN NO. 1 PDP. CHECK FOR 28VDC BETWEEN **FUEL QTY** CB 057CB2 CIRCUIT SIDE (-) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W557 113-22, W645-44-22, OR W550 13-22 BETWEEN PLUG 057P3 AND CB 057CB2. REPAIR OR REPLACE WIRES AS REQUIRED
NO
REPLACE **FUEL QTY** CIRCUIT BREAKER 057CB2

END OF TASK

8-11.17 R FUEL LOW WARNING CAPSULE DOES NOT COME ON WHEN R MAIN TANK FUEL LEVEL IS BELOW 320 TO 420 POUNDS

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

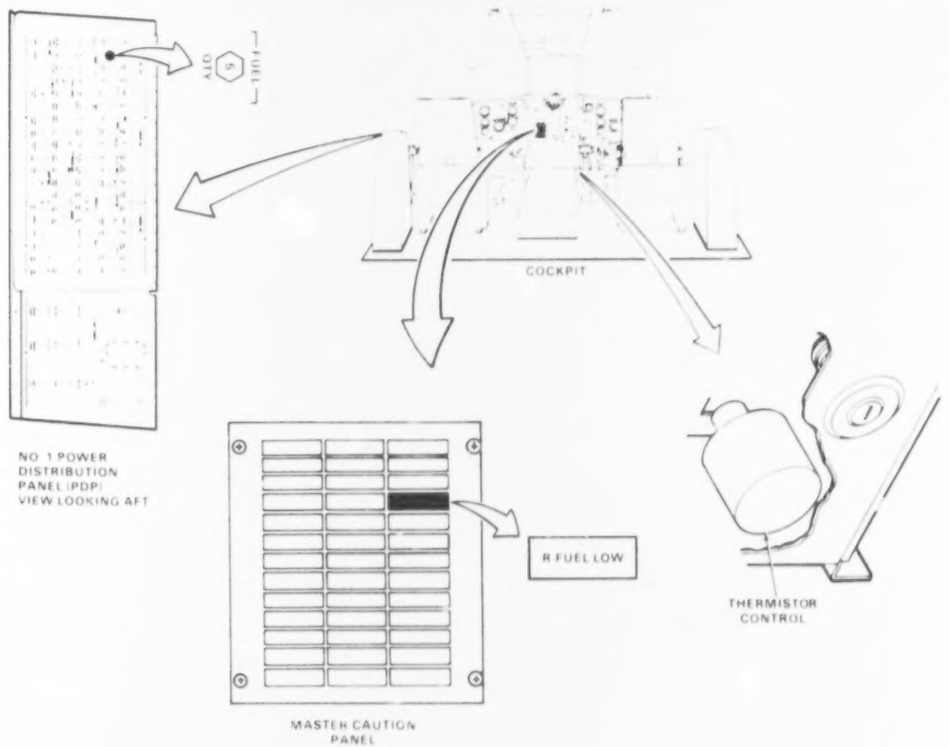
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
Battery Connected
Electrical Power On
Hydraulic Power Off



REMOVE MASTER CAUTION PANEL AND DISCONNECT PLUG 232P1. CHECK FOR 28VDC BETWEEN PLUG 232P1 PIN J(-) AND GROUND. IS 28VDC PRESENT?
YES
REPLACE MASTER CAUTION PANEL
NO
REMOVE ELECT PWR. REMOVE CENTER CONSOLE FWD RIGHT SIDE ACCESS PANEL. DISCONNECT PLUG 057P3 FROM THERMISTER CONTROL AND CHECK FOR CONTINUITY BETWEEN PLUG 057P3 PIN F AND PLUG 232P1 J. IS CONTINUITY PRESENT?
YES
APPLY ELECT PWR. CHECK FOR 28VDC BETWEEN PLUG 057P3 PINS D(-) AND H. IS 28VDC PRESENT?
YES
REMOVE ELECT PWR. SUBSTITUTE THERMISTER CONTROL. CONNECT PLUG 057P3. APPLY ELECT PWR. CHECK FOR 28VDC BETWEEN PLUG 232P1 PIN J(-) AND GROUND. IS 28VDC PRESENT?
YES
REPLACE THERMISTER CONTROL
NO
REPLACE R MAIN TANK LOW LEVEL THERMISTER
NO
LOCATE OPEN IN WIRE W557-119-22 BETWEEN PLUG 057P3 AND PLUG 232P1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
CHECK FOR 28VDC BETWEEN PLUG 057P3 PIN D(-) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W557-GD009M22N BETWEEN PLUG 057P3 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
OPEN NO 1 PDP. CHECK FOR 28VDC BETWEEN **FUEL QTY** CB 057CB2 CIRCUIT SIDE (-) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W557-113-22, W645-44-22, OR W550-13-22 BETWEEN PLUG 057P3 AND CB 957CB2. REPAIR OR REPLACE WIRES AS REQUIRED
NO
REPLACE **FUEL QTY** CIRCUIT BREAKER 057CD2

END OF TASK

8-11.18 REFUEL PANEL FUEL QUANTITY INDICATOR DOES NOT INDICATE FUEL LEVEL AT ANY SWITCH POSITION

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

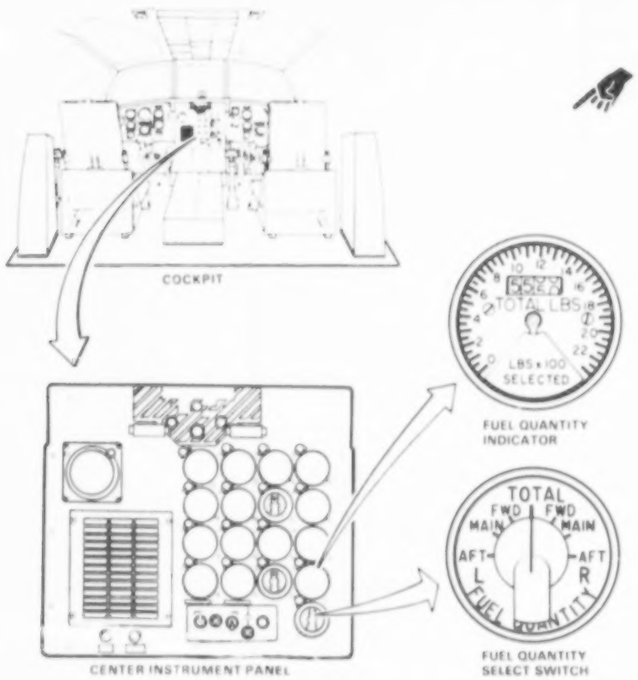
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

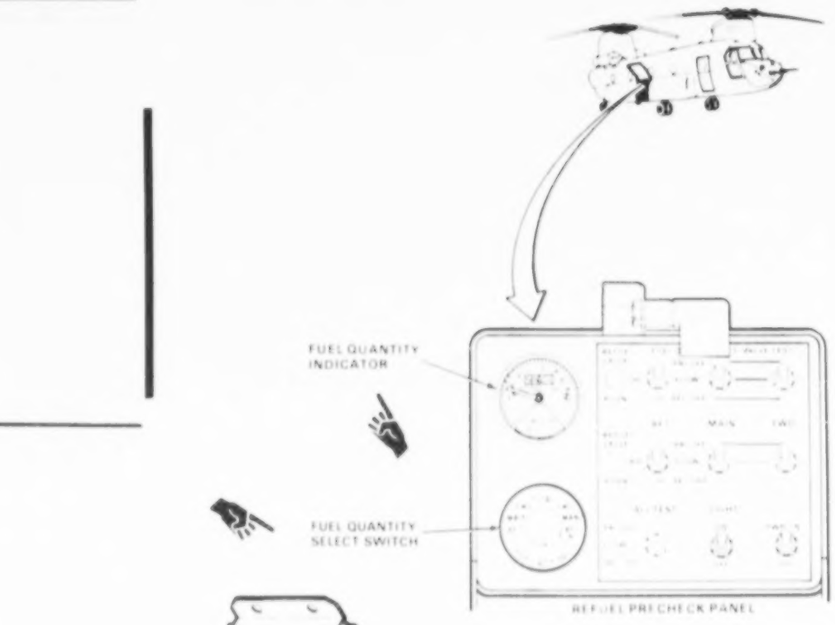
Materials:
None

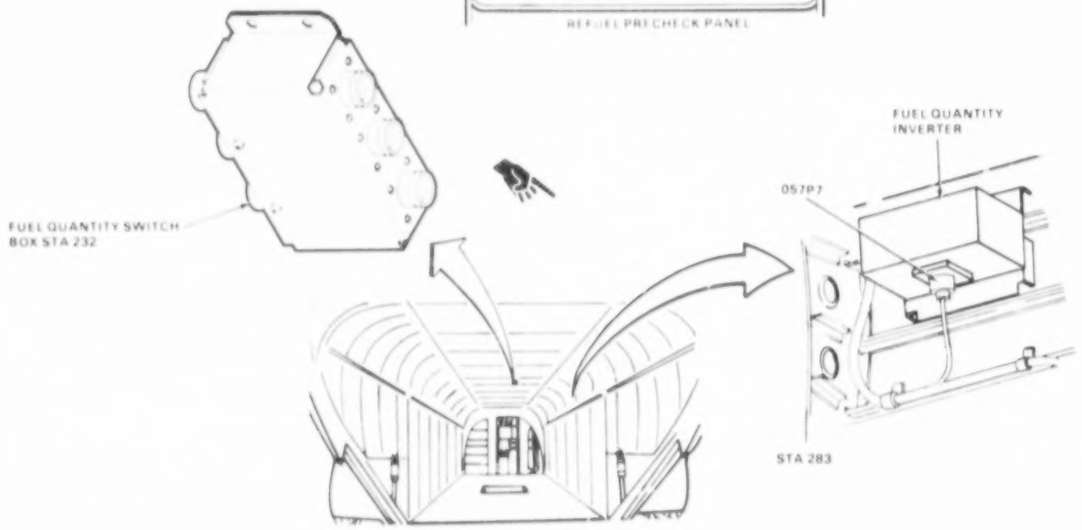
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off







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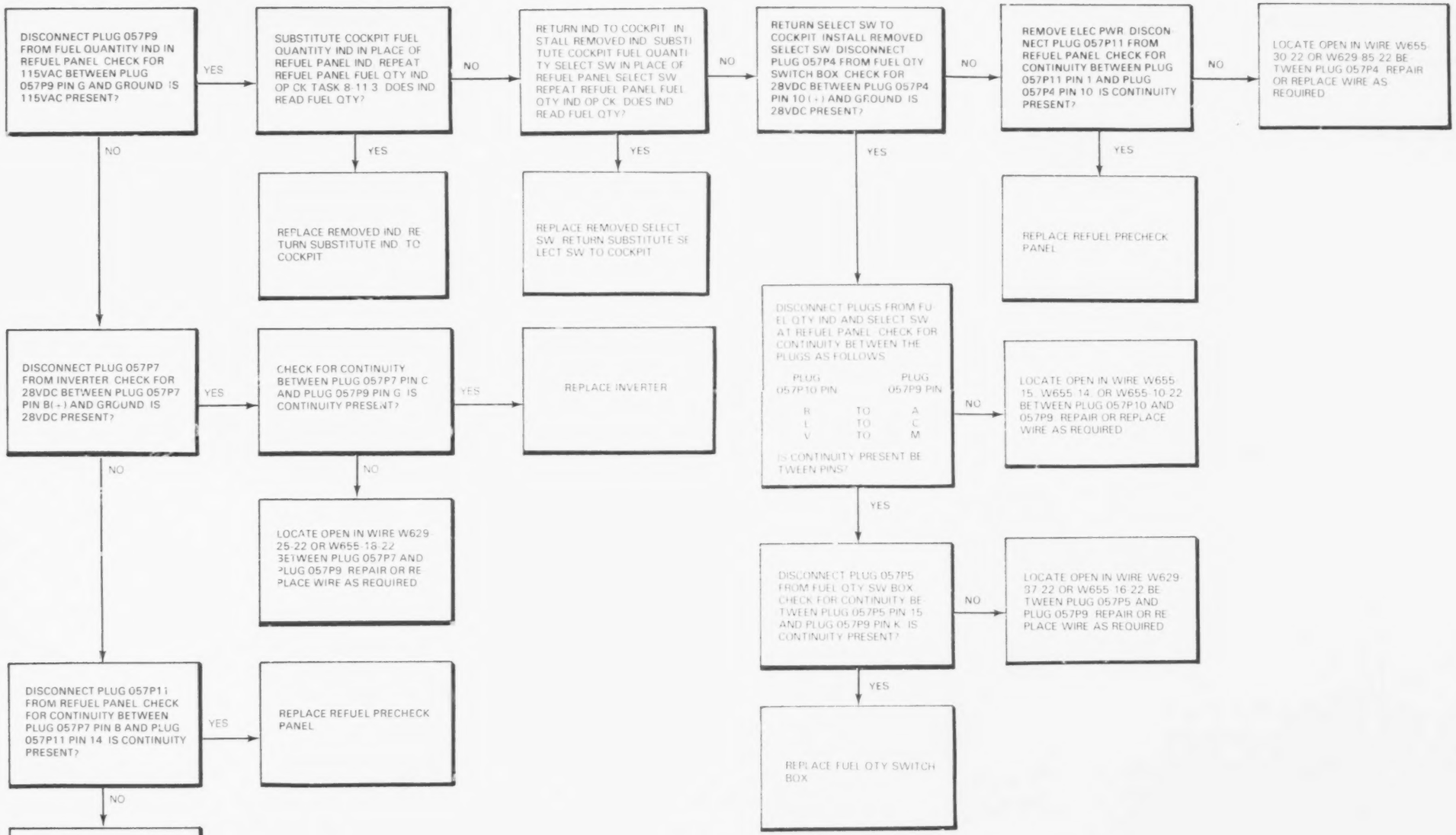
8-11.18 REFUEL PANEL FUEL QUANTITY INDICATOR DOES NOT INDICATE FUEL LEVEL AT ANY SWITCH POSITION (Continued)


DISCONNECT PLUG 057P9 FROM FUEL QUANTITY IND IN REFUEL PANEL. CHECK FOR 115VAC BETWEEN PLUG 057P9 PIN G AND GROUND. IS 115VAC PRESENT?
YES
SUBSTITUTE COCKPIT FUEL QUANTITY IND IN PLACE OF REFUEL PANEL IND. REPEAT REFUEL PANEL FUEL QTY IND OP CK TASK 8-11.3. DOES IND READ FUEL QTY?
NO
RETURN IND TO COCKPIT. INSTALL REMOVED IND. SUBSTITUTE COCKPIT FUEL QUANTITY SELECT SW IN PLACE OF REFUEL PANEL SELECT SW. REPEAT REFUEL PANEL FUEL QTY IND OP CK. DOES IND READ FUEL QTY?
NO
RETURN SELECT SW TO COCKPIT. INSTALL REMOVED SELECT SW. DISCONNECT PLUG 057P4 FROM FUEL QTY SWITCH BOX. CHECK FOR 28VDC BETWEEN PLUG 057P4 PIN 10 (+) AND GROUND. IS 28VDC PRESENT?
NO
REMOVE ELEC PWR. DISCONNECT PLUG 057P11 FROM REFUEL PANEL. CHECK FOR CONTINUITY BETWEEN PLUG 057P11 PIN 1 AND PLUG 057P4 PIN 10. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W655-30-22 OR W629-85-22 BETWEEN PLUG 057P4. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE REFUEL PRECHECK PANEL.
YES
REPLACE REMOVED SELECT SW. RETURN SUBSTITUTE SELECT SW TO COCKPIT.
YES
REPLACE REMOVED IND. RETURN SUBSTITUTE IND. TO COCKPIT.
NO
DISCONNECT PLUGS FROM FUEL QTY IND AND SELECT SW AT REFUEL PANEL. CHECK FOR CONTINUITY BETWEEN THE PLUGS AS FOLLOWS:
PLUG 057P10 PIN — PLUG 057P9 PIN
R TO A
E TO C
V TO M
IS CONTINUITY PRESENT BETWEEN PINS?
NO
LOCATE OPEN IN WIRE W655-15, W655-14, OR W655-10-22 BETWEEN PLUG 057P10 AND 057P9. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
DISCONNECT PLUG 057P5 FROM FUEL QTY SW BOX. CHECK FOR CONTINUITY BETWEEN PLUG 057P5 PIN 15 AND PLUG 057P9 PIN K. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W629-37-22 OR W655-16-22 BETWEEN PLUG 057P5 AND PLUG 057P9. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE FUEL QTY SWITCH BOX.
DISCONNECT PLUG 057P7 FROM INVERTER. CHECK FOR 28VDC BETWEEN PLUG 057P7 PIN B(+) AND GROUND. IS 28VDC PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 057P7 PIN C AND PLUG 057P9 PIN G. IS CONTINUITY PRESENT?
YES
REPLACE INVERTER.
NO
LOCATE OPEN IN WIRE W629-25-22 OR W655-18-22 BETWEEN PLUG 057P7 AND PLUG 057P9. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
DISCONNECT PLUG 057P11 FROM REFUEL PANEL. CHECK FOR CONTINUITY BETWEEN PLUG 057P7 PIN B AND PLUG 057P11 PIN 14. IS CONTINUITY PRESENT?
YES
REPLACE REFUEL PRECHECK PANEL.
NO
LOCATE OPEN IN WIRE W629-30-22 OR W655-29-22 BETWEEN PLUG 057P7 AND PLUG 057P11. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

8-11.19 REFUEL PANEL FUEL QUANTITY INDICATOR INDICATES FUEL LEVEL FOR ALL BUT ONE SWITCH POSITION

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

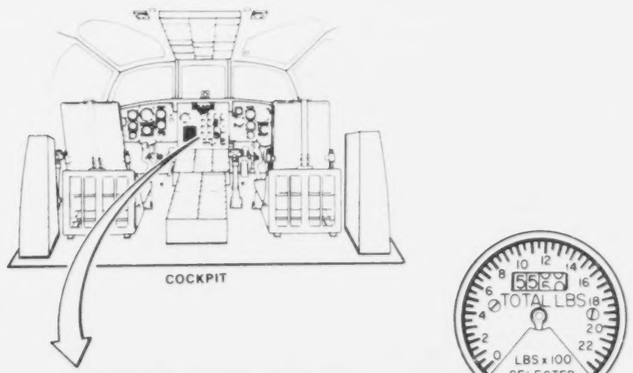
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

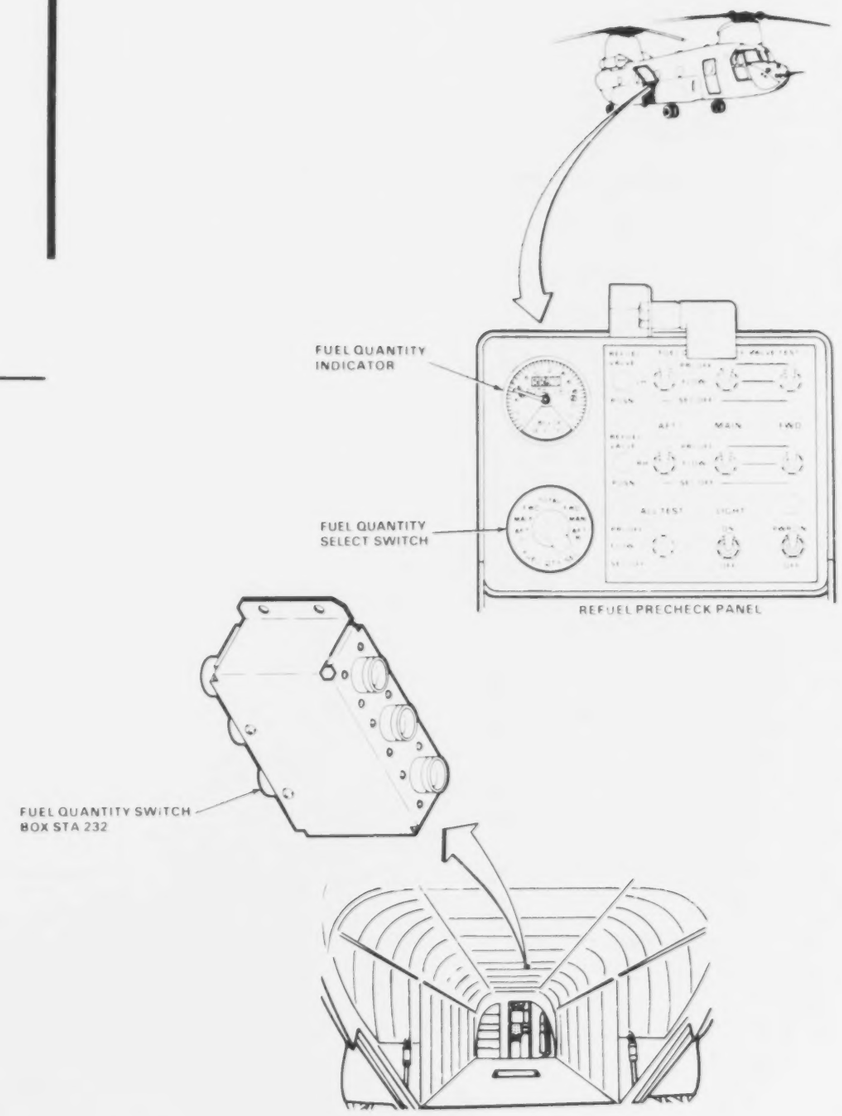
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off





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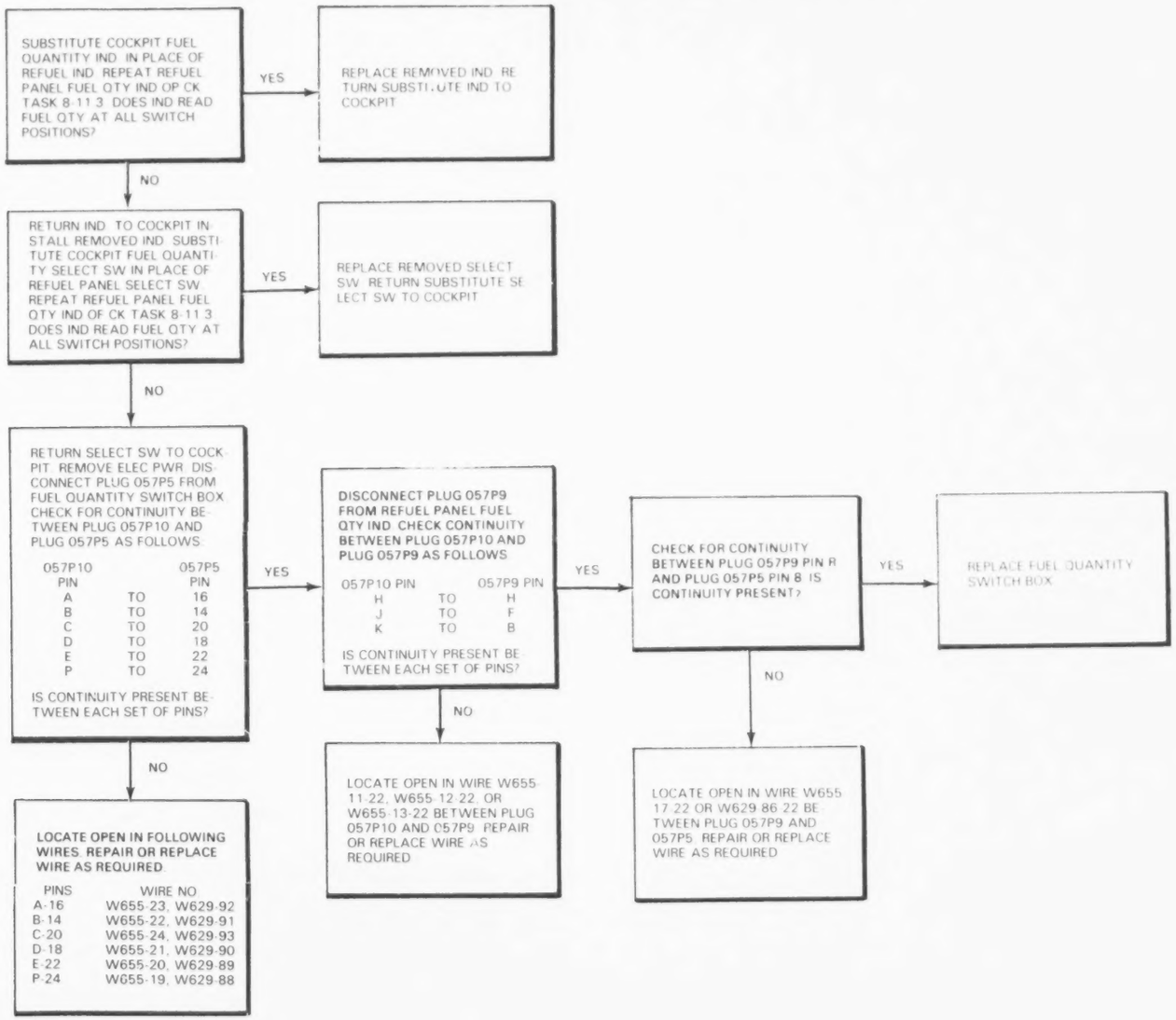
8-11.19 REFUEL PANEL FUEL QUANTITY INDICATOR INDICATES FUEL LEVEL FOR ALL BUT ONE SWITCH POSITION (Continued)


SUBSTITUTE COCKPIT FUEL QUANTITY IND IN PLACE OF REFUEL IND. REPEAT REFUEL PANEL FUEL QTY IND OP CK TASK 8-11.3. DOES IND READ FUEL QTY AT ALL SWITCH POSITIONS?
YES
REPLACE REMOVED IND. RETURN SUBSTITUTE IND TO COCKPIT
NO
RETURN IND. TO COCKPIT INSTALL REMOVED IND. SUBSTITUTE COCKPIT FUEL QUANTITY SELECT SW IN PLACE OF REFUEL PANEL SELECT SW. REPEAT REFUEL PANEL FUEL QTY IND OF CK TASK 8-11.3. DOES IND READ FUEL QTY AT ALL SWITCH POSITIONS?
YES
REPLACE REMOVED SELECT SW. RETURN SUBSTITUTE SELECT SW TO COCKPIT
NO
RETURN SELECT SW TO COCKPIT. REMOVE ELEC PWR. DISCONNECT PLUG 057P5 FROM FUEL QUANTITY SWITCH BOX. CHECK FOR CONTINUITY BETWEEN PLUG 057P10 AND PLUG 057P5 AS FOLLOWS:
057P10 PIN TO 057P5 PIN
A TO 16
B TO 14
C TO 20
D TO 18
E TO 22
P TO 24
IS CONTINUITY PRESENT BETWEEN EACH SET OF PINS?
YES
DISCONNECT PLUG 057P9 FROM REFUEL PANEL FUEL QTY IND. CHECK CONTINUITY BETWEEN PLUG 057P10 AND PLUG 057P9 AS FOLLOWS:
057P10 PIN TO 057P9 PIN
H TO H
J TO F
K TO B
IS CONTINUITY PRESENT BETWEEN EACH SET OF PINS?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 057P9 PIN R AND PLUG 057P5 PIN 8. IS CONTINUITY PRESENT?
YES
REPLACE FUEL QUANTITY SWITCH BOX
NO
LOCATE OPEN IN WIRE W655-17-22 OR W629-86-22 BETWEEN PLUG 057P9 AND 057P5. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W655-11-22, W655-12-22, OR W655-13-22 BETWEEN PLUG 057P10 AND 057P9. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN FOLLOWING WIRES. REPAIR OR REPLACE WIRE AS REQUIRED.
PINS WIRE NO
A-16 W655-23, W629-92
B-14 W655-22, W629-91
C-20 W655-24, W629-93
D-18 W655-21, W629-90
E-22 W655-20, W629-89
P-24 W655-19, W629-88

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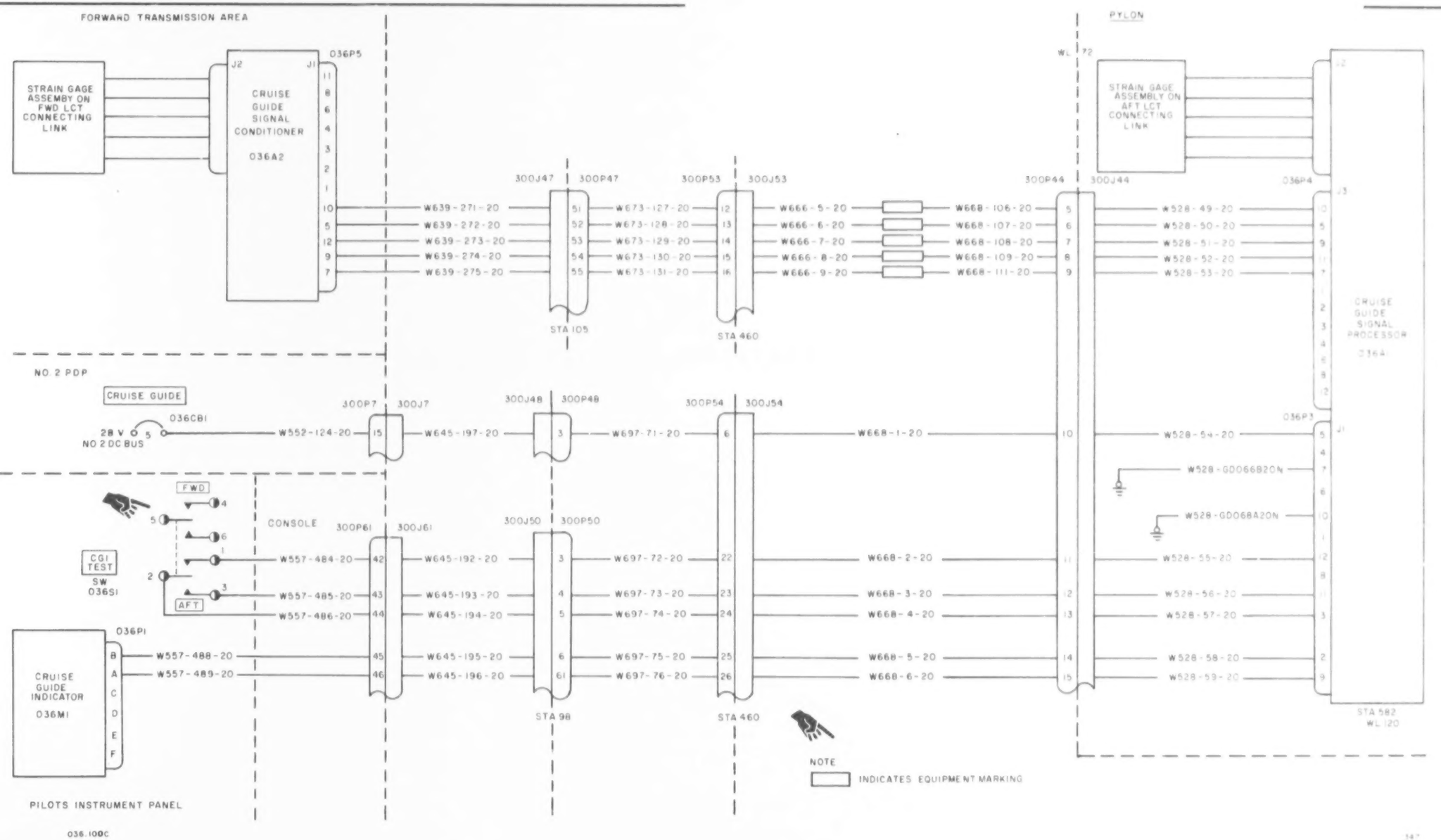
8-12 CRUISE GUIDE INDICATING SYSTEM

8-12 CRUISE GUIDE INDICATING SYSTEM

8-12.1 CRUISE GUIDE INDICATING SYSTEM WIRING DIAGRAM



8-12.2 CRUISE GUIDE INDICATING SYSTEM VISUAL CHECK

INTIAL SETUP

Applicable Configurations:
All

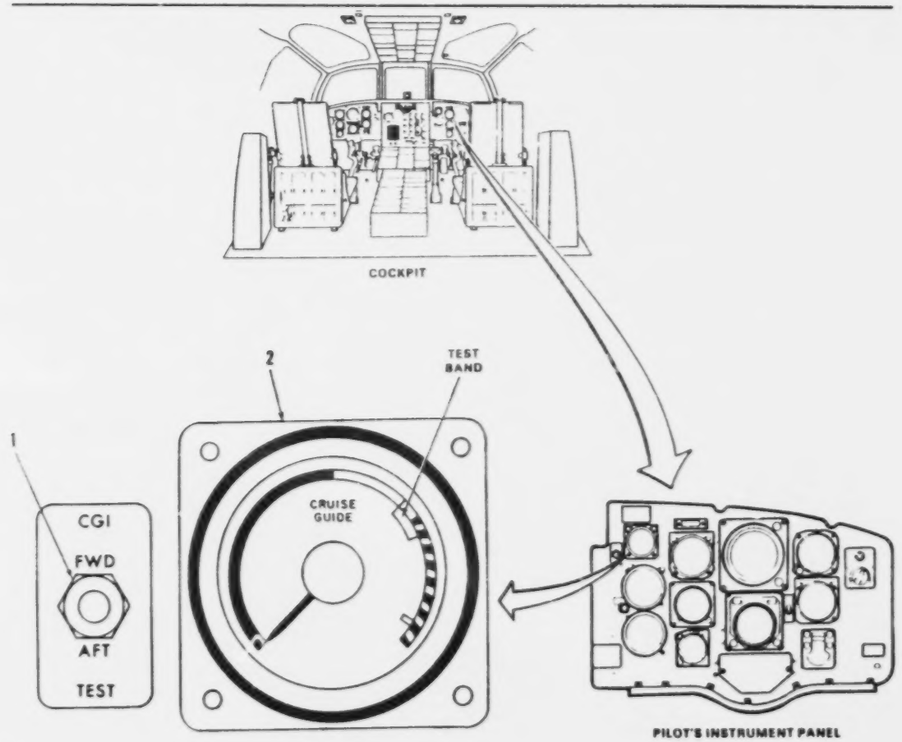
Tools:
Aircraft Mechanic's Tool Kit,
NSN 5180-00-323-4692

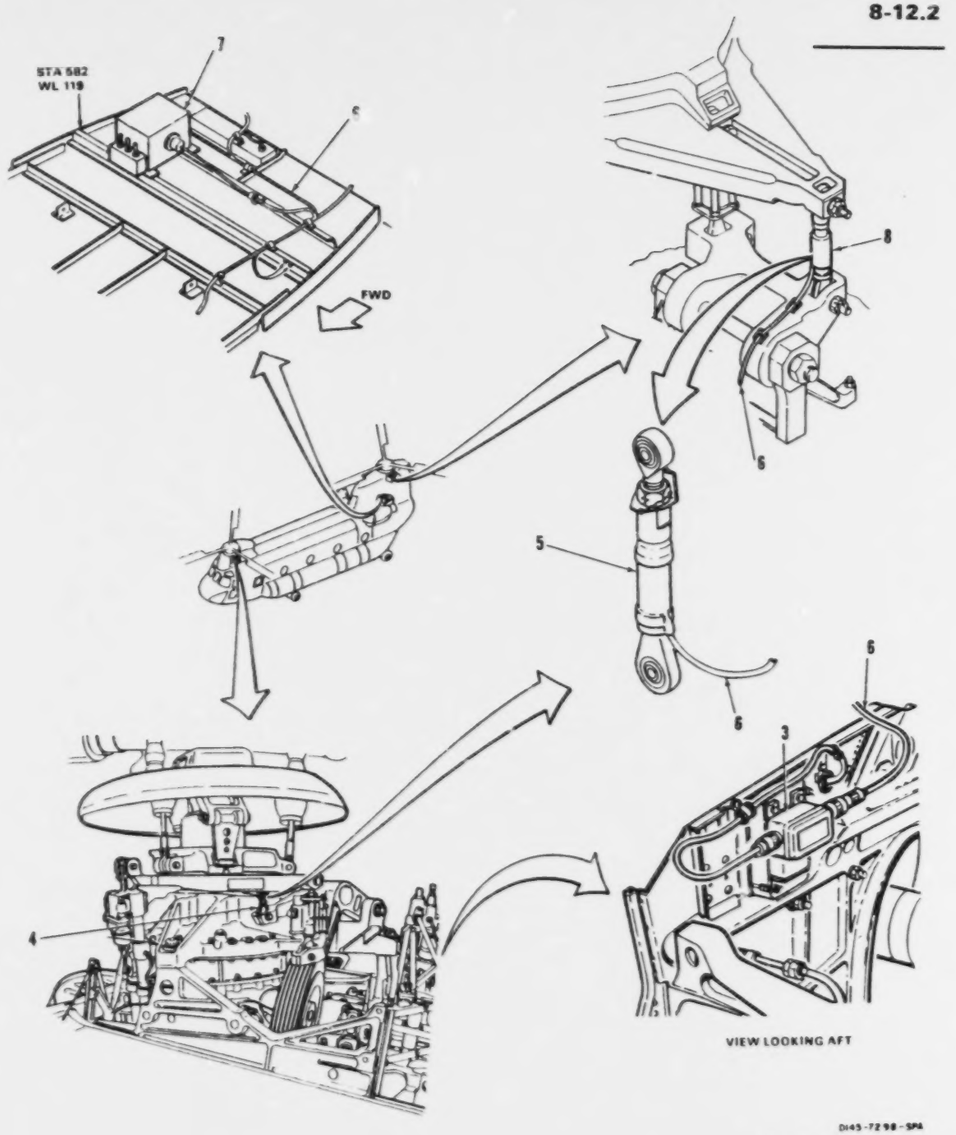
Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer

References:
TM 55-1520-240-23

Equipment Condition
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Right Forward Work Platform Open
Pylon Left and Right Work
Platform Open





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8-12.2 CRUISE GUIDE INDICATING SYSTEM VISUAL CHECK (Continued)

TASK	RESULT
1. **Check CGI TEST switch (1).**	If switch (1) is loose or damaged, tighten or replace it as required.
2. **Check cruise guide indicator (2).**	If indicator (2) is damaged, replace it.
3. **Check signal conditioner (3).**	If conditioner (3) is loose or damaged, tighten or replace it as required. If wiring or connector to conditioner is damaged, repair or replace as required.
4. **Check forward longitudinal cyclic trim connecting link (4).**	If boot (5) or wire harness (6) is damaged, replace link (4).
5. **Check signal processor (7).**	If processor (7) is loose or damaged, tighten or replace it as required. If wiring or connector to processor is damaged repair or replace it as required.
6. **Check aft longitudinal cyclic trim connecting link (8).**	If boot (5) or wire harness (6) is damaged, replace link (8).

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23:
Close pylon left work platform
Close left and right forward work platform

END OF TASK

8-12.3 CRUISE GUIDE INDICATING SYSTEM OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Stopwatch

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

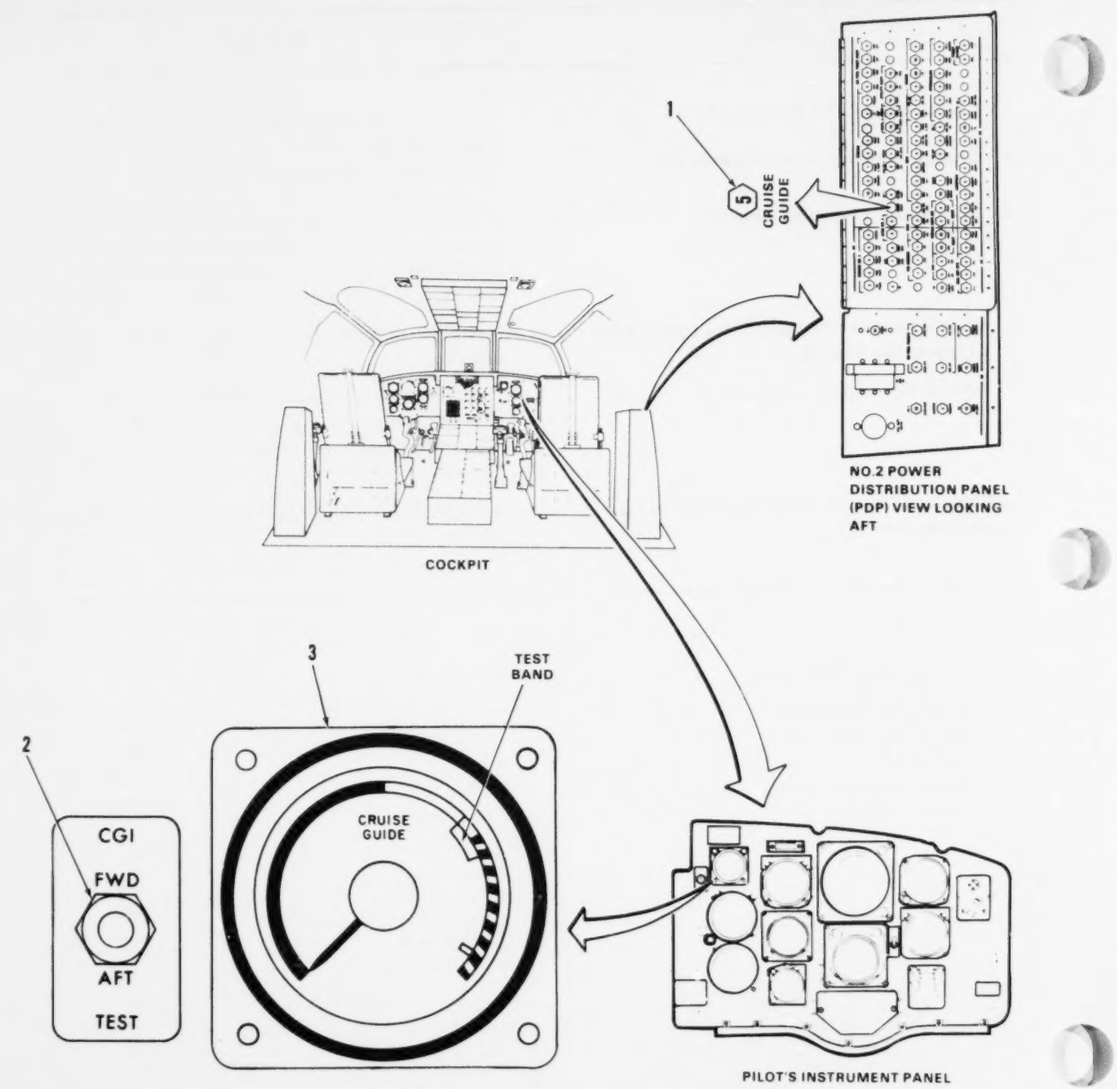
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Cruise Guide Indicating System
Visual Check Performed (Task 8-12.2)

TASK	RESULT
1. **Check** that **CRUISE GUIDE circuit breaker (1)** is closed.	If circuit breaker (1) is open, close it. If it opens again, go to task 8-12.4.
2. **Set and hold CGI TEST switch (2) to AFT.**	Pointer on indicator (3) shall move to test band within 8 seconds. If pointer is not in test band, go to task 8-12.5.
3. **Release CGI TEST switch (2).**	Pointer on indicator (3) shall move down scale. If it does not, replace switch (2).
4. **Set and hold CGI TEST switch (2) to FWD.**	Pointer on indicator (3) shall move to test band within 8 seconds. If pointer is not in test band, go to task 8-12.6.
5. **Release CGI TEST switch (2).**	Pointer on indicator (3) shall move down scale. If it does not, replace switch (2).

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off



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END OF TASK

8-12.4 CRUISE GUIDE CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

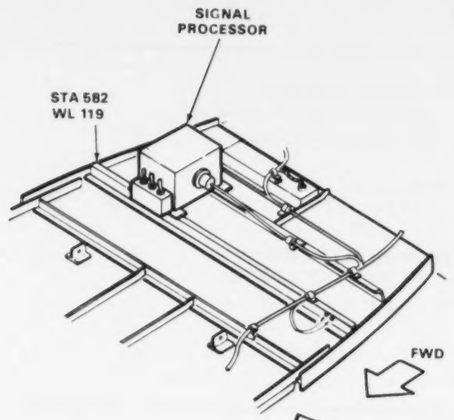
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

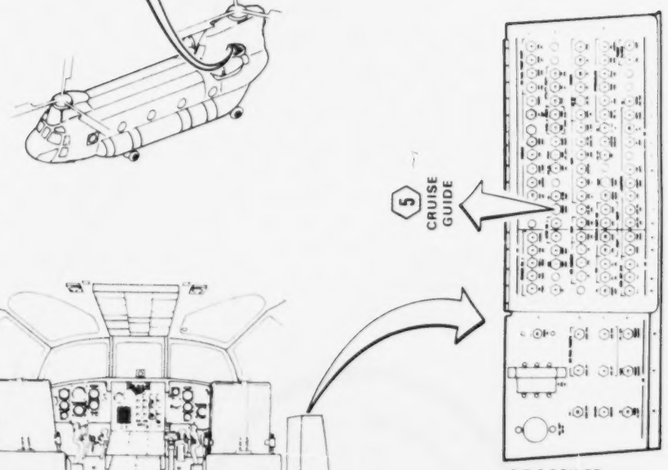
Materials:
None

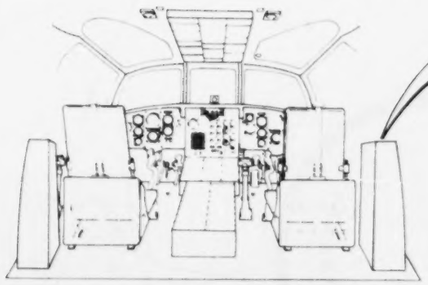
Personnel Required
68F20 Aircraft Electrician

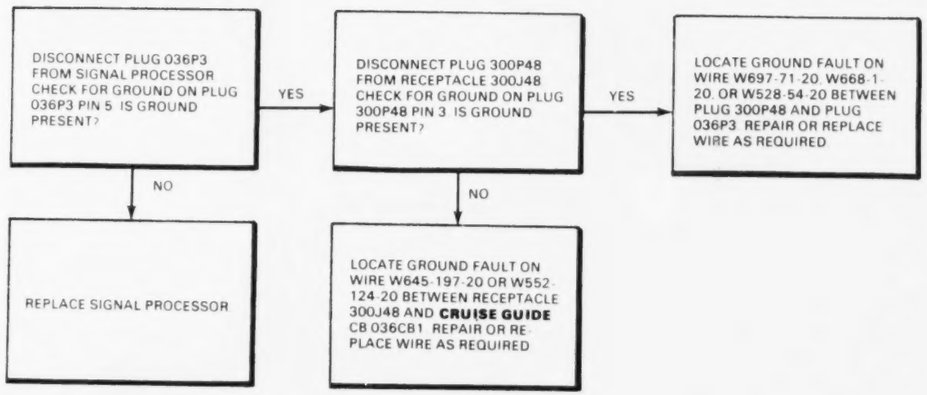
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Pylon Left Work Platform
Open








DISCONNECT PLUG 036P3 FROM SIGNAL PROCESSOR CHECK FOR GROUND ON PLUG 036P3 PIN 5. IS GROUND PRESENT?
YES
DISCONNECT PLUG 300P48 FROM RECEPTACLE 300J48 CHECK FOR GROUND ON PLUG 300P48 PIN 3. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W697-71-20, W668-1-20, OR W528-54-20 BETWEEN PLUG 300P48 AND PLUG 036P3. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE SIGNAL PROCESSOR
NO
LOCATE GROUND FAULT ON WIRE W645-197-20 OR W552-124-20 BETWEEN RECEPTACLE 300J48 AND CRUISE GUIDE CB 036CB1. REPAIR OR REPLACE WIRE AS REQUIRED

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END OF TASK

8-12.5 CRUISE GUIDE INDICATOR POINTER NOT IN TEST BAND WITH CGI TEST SWITCH AT AFT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

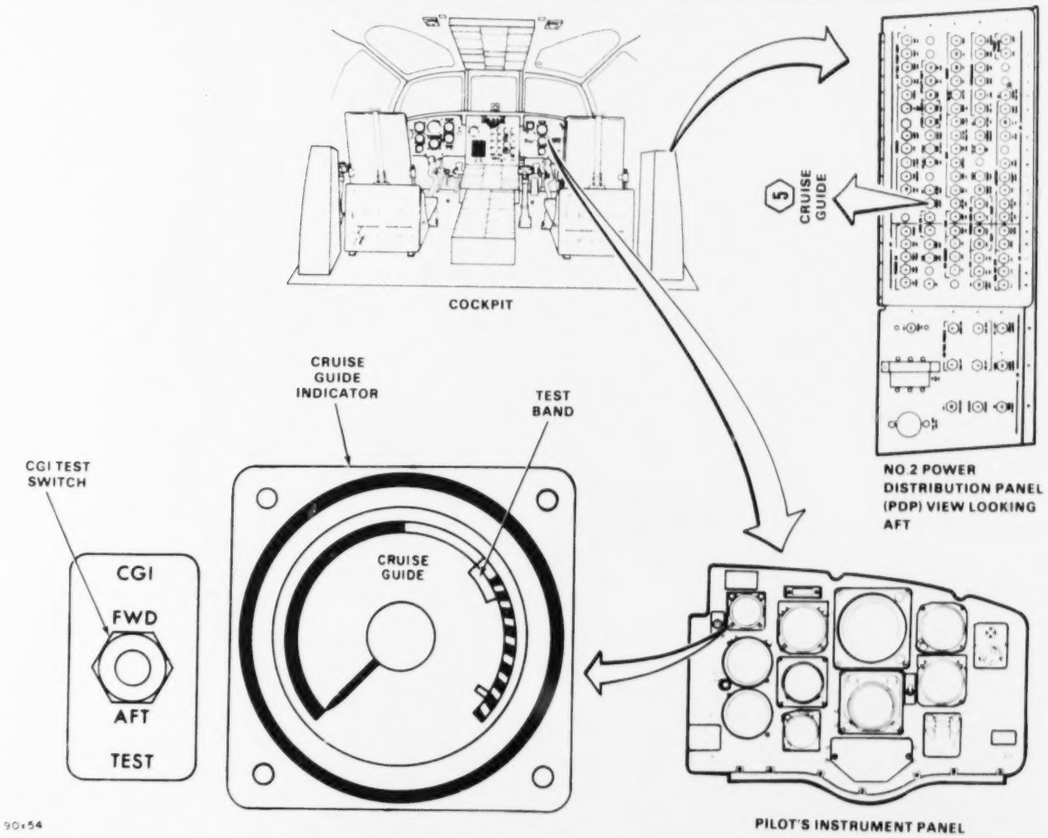
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

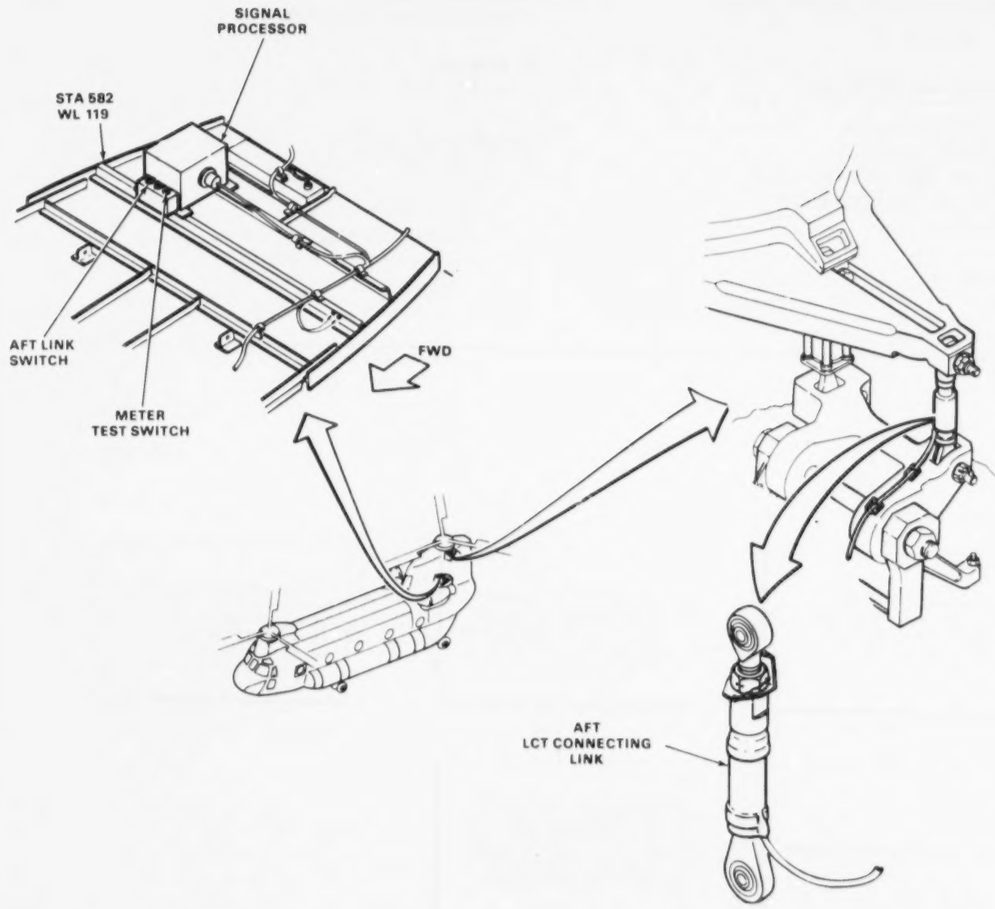
Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off





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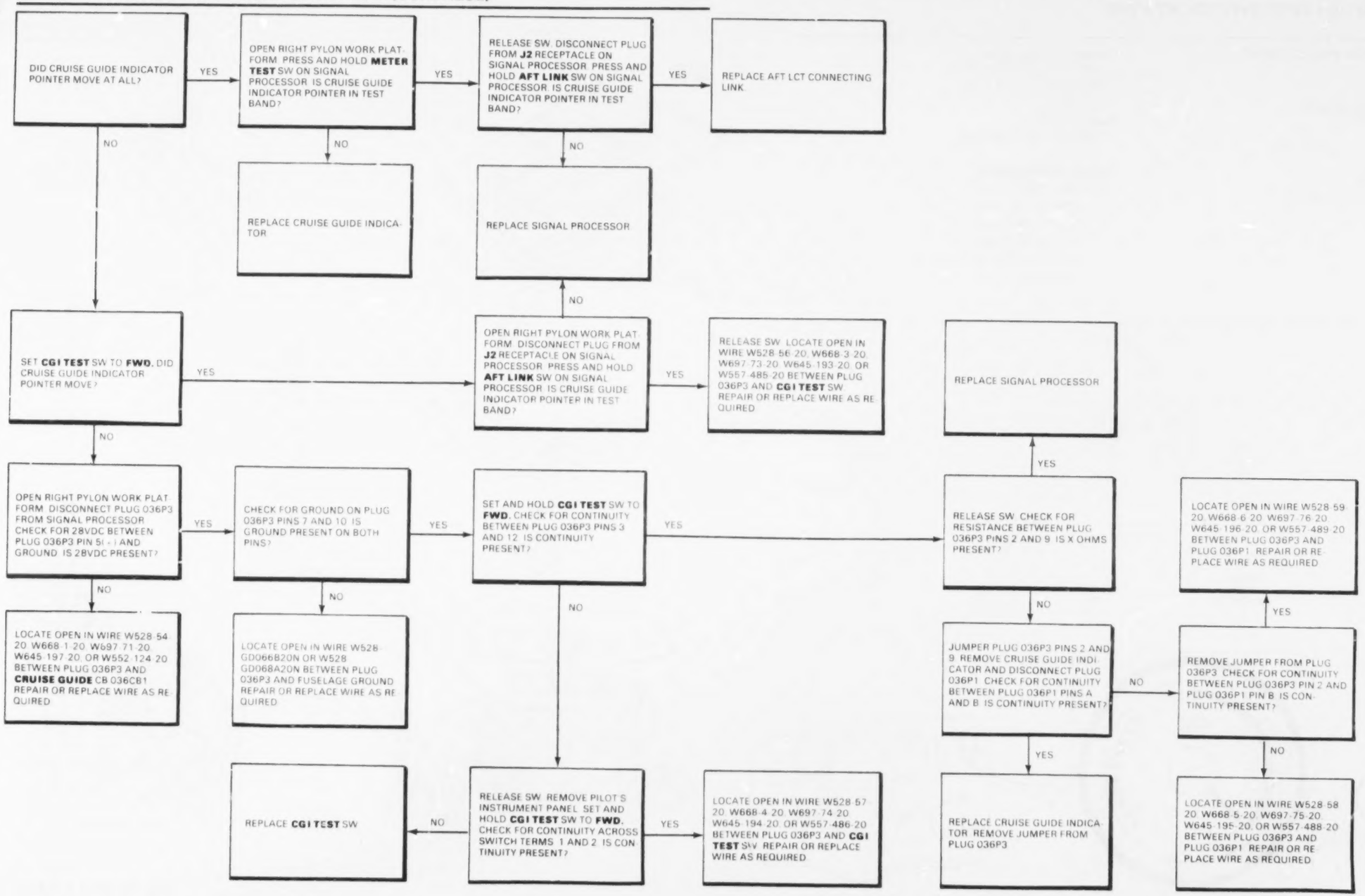
8-12.5 CRUISE GUIDE INDICATOR POINTER NOT IN TEST BAND WITH CGI TEST SWITCH AT AFT (Continued)


DID CRUISE GUIDE INDICATOR POINTER MOVE AT ALL?
YES
OPEN RIGHT PYLON WORK PLATFORM. PRESS AND HOLD **METER TEST** SW ON SIGNAL PROCESSOR. IS CRUISE GUIDE INDICATOR POINTER IN TEST BAND?
YES
RELEASE SW. DISCONNECT PLUG FROM **J2** RECEPTACLE ON SIGNAL PROCESSOR. PRESS AND HOLD **AFT LINK** SW ON SIGNAL PROCESSOR. IS CRUISE GUIDE INDICATOR POINTER IN TEST BAND?
YES
REPLACE AFT LCT CONNECTING LINK.
NO
REPLACE CRUISE GUIDE INDICATOR.
NO
REPLACE SIGNAL PROCESSOR.
NO
SET **CGI TEST** SW TO **FWD**. DID CRUISE GUIDE INDICATOR POINTER MOVE?
YES
OPEN RIGHT PYLON WORK PLATFORM. DISCONNECT PLUG FROM **J2** RECEPTACLE ON SIGNAL PROCESSOR. PRESS AND HOLD **AFT LINK** SW ON SIGNAL PROCESSOR. IS CRUISE GUIDE INDICATOR POINTER IN TEST BAND?
YES
RELEASE SW. LOCATE OPEN IN WIRE W528-56-20, W668-3-20, W697-73-20, W645-193-20, OR W557-485-20 BETWEEN PLUG 036P3 AND **CGI TEST** SW. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE SIGNAL PROCESSOR.
YES
NO
OPEN RIGHT PYLON WORK PLATFORM. DISCONNECT PLUG 036P3 FROM SIGNAL PROCESSOR. CHECK FOR 28VDC BETWEEN PLUG 036P3 PIN 5(+) AND GROUND. IS 28VDC PRESENT?
YES
CHECK FOR GROUND ON PLUG 036P3 PINS 7 AND 10. IS GROUND PRESENT ON BOTH PINS?
YES
SET AND HOLD **CGI TEST** SW TO **FWD**. CHECK FOR CONTINUITY BETWEEN PLUG 036P3 PINS 3 AND 12. IS CONTINUITY PRESENT?
YES
RELEASE SW. CHECK FOR RESISTANCE BETWEEN PLUG 036P3 PINS 2 AND 9. IS X OHMS PRESENT?
NO
LOCATE OPEN IN WIRE W528-59-20, W668-6-20, W697-76-20, W645-196-20, OR W557-489-20 BETWEEN PLUG 036P3 AND PLUG 036P1. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
NO
LOCATE OPEN IN WIRE W528-54-20, W668-1-20, W697-71-20, W645-197-20, OR W552-124-20 BETWEEN PLUG 036P3 AND **CRUISE GUIDE** CB 036CB1. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W528-GD066B20N OR W528-GD068A20N BETWEEN PLUG 036P3 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
JUMPER PLUG 036P3 PINS 2 AND 9. REMOVE CRUISE GUIDE INDICATOR AND DISCONNECT PLUG 036P1. CHECK FOR CONTINUITY BETWEEN PLUG 036P1 PINS A AND B. IS CONTINUITY PRESENT?
NO
REMOVE JUMPER FROM PLUG 036P3. CHECK FOR CONTINUITY BETWEEN PLUG 036P3 PIN 2 AND PLUG 036P1 PIN B. IS CONTINUITY PRESENT?
YES
NO
REPLACE **CGI TEST** SW.
NO
RELEASE SW. REMOVE PILOT'S INSTRUMENT PANEL. SET AND HOLD **CGI TEST** SW TO **FWD**. CHECK FOR CONTINUITY ACROSS SWITCH TERMS. 1 AND 2. IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRE W528-57-20, W668-4-20, W697-74-20, W645-194-20, OR W557-486-20 BETWEEN PLUG 036P3 AND **CGI TEST** SW. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE CRUISE GUIDE INDICATOR. REMOVE JUMPER FROM PLUG 036P3.
NO
LOCATE OPEN IN WIRE W528-58-20, W668-5-20, W697-75-20, W645-195-20, OR W557-488-20 BETWEEN PLUG 036P3 AND PLUG 036P1. REPAIR OR REPLACE WIRE AS REQUIRED.

8-12.6 CRUISE GUIDE INDICATOR POINTER NOT IN TEST BAND WITH CGI TEST SWITCH AT FWD

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

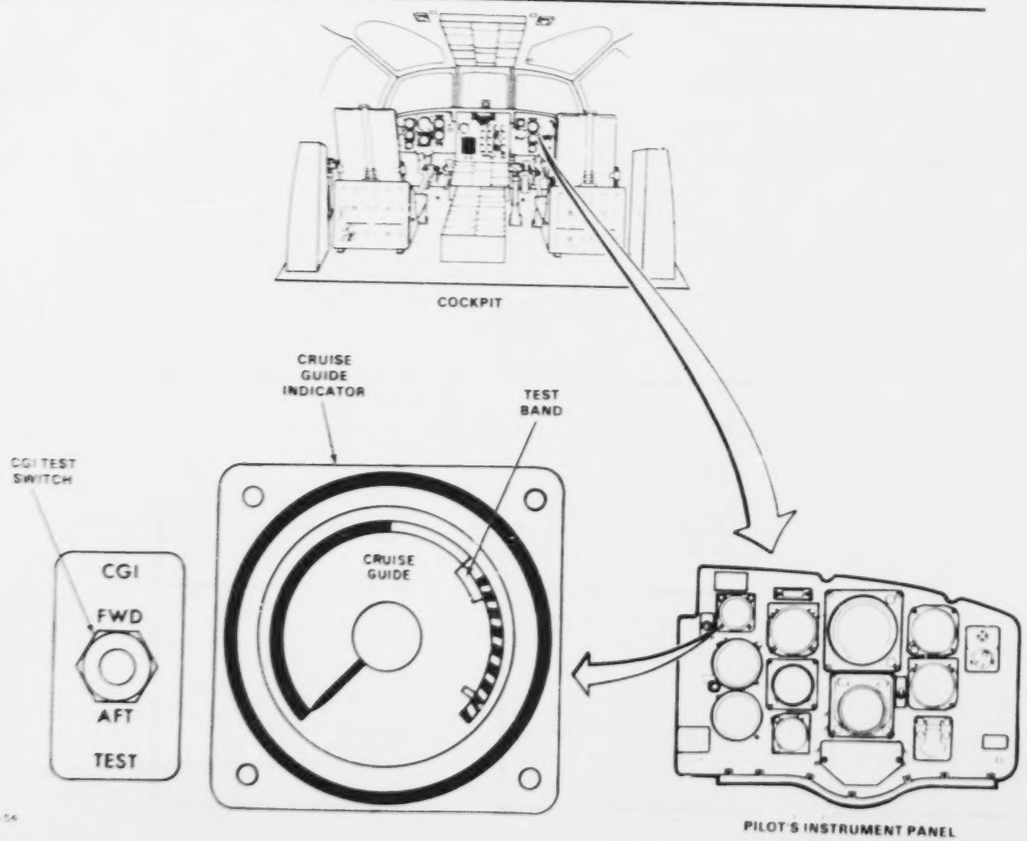
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

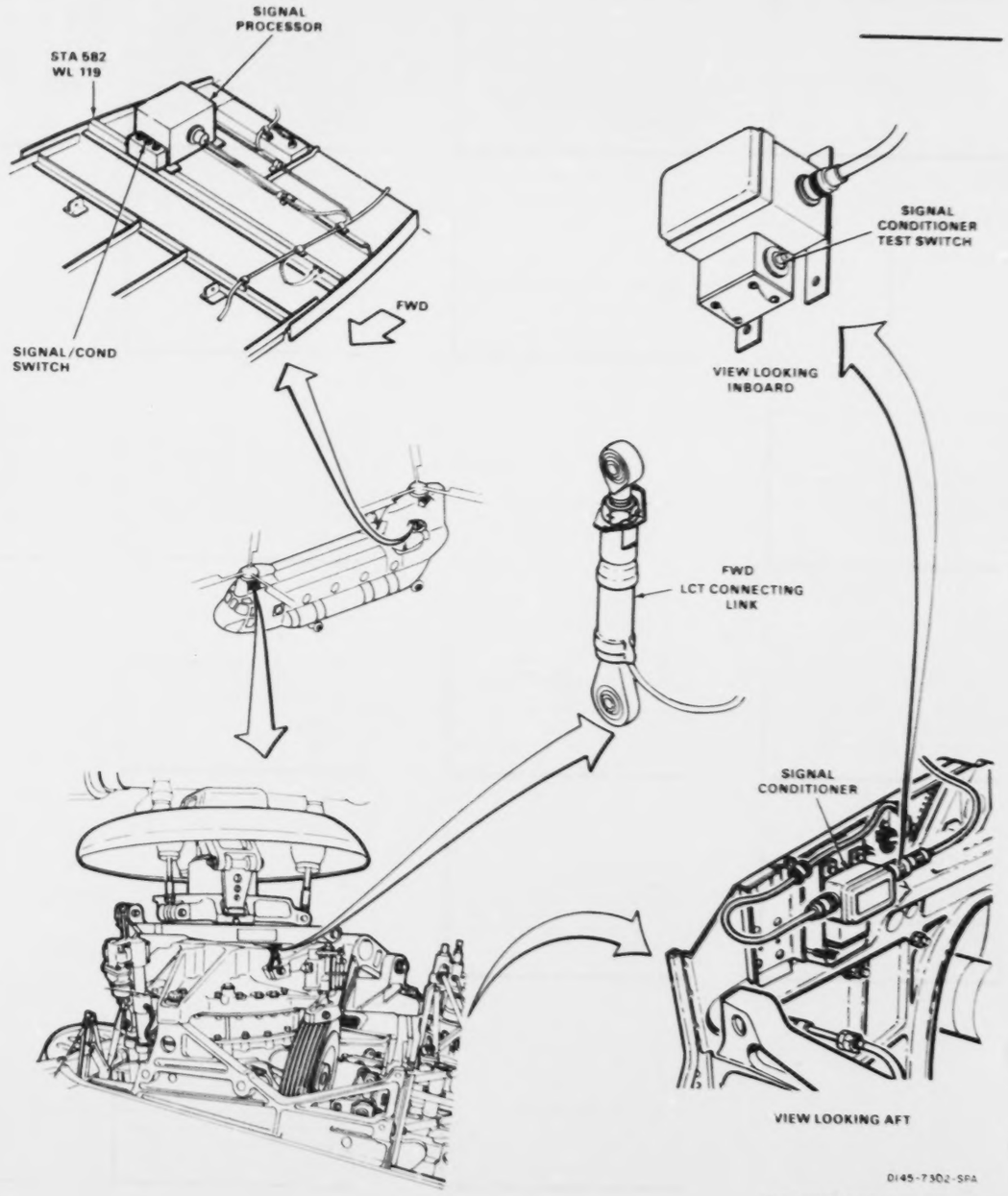
Materials:
None

Personnel Required
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Left Pylon Work Platform Opened





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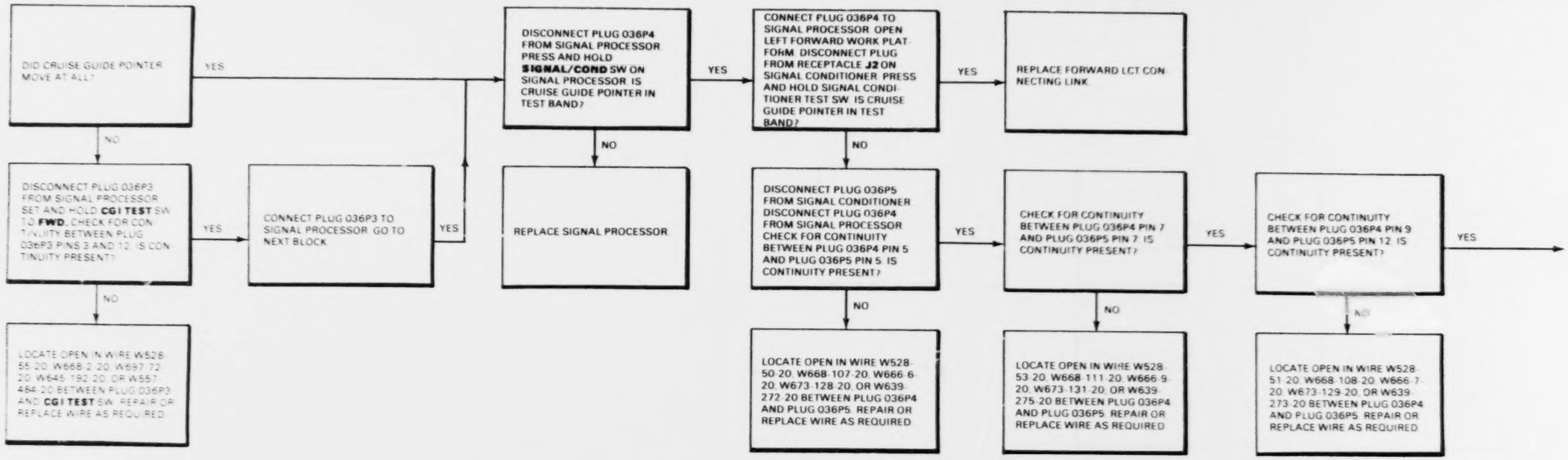
8-12.6 CRUISE GUIDE INDICATOR POINTER NOT IN TEST BAND WITH CGI TEST SWITCH AT FWD (Continued)


DID CRUISE GUIDE POINTER MOVE AT ALL?
YES
NO
DISCONNECT PLUG 036P3 FROM SIGNAL PROCESSOR SET AND HOLD **CGI TEST** SW TO **FWD**. CHECK FOR CONTINUITY BETWEEN PLUG 036P3 PINS 3 AND 12. IS CONTINUITY PRESENT?
YES
NO
CONNECT PLUG 036P3 TO SIGNAL PROCESSOR. GO TO NEXT BLOCK.
YES
LOCATE OPEN IN WIRE W528-55-20, W668-2-20, W697-72-20, W645-192-20, OR W557-484-20 BETWEEN PLUG 036P3 AND **CGI TEST** SW. REPAIR OR REPLACE WIRE AS REQUIRED.
DISCONNECT PLUG 036P4 FROM SIGNAL PROCESSOR. PRESS AND HOLD **SIGNAL/COND** SW ON SIGNAL PROCESSOR. IS CRUISE GUIDE POINTER IN TEST BAND?
YES
NO
REPLACE SIGNAL PROCESSOR.
CONNECT PLUG 036P4 TO SIGNAL PROCESSOR. OPEN LEFT FORWARD WORK PLATFORM. DISCONNECT PLUG FROM RECEPTACLE **J2** ON SIGNAL CONDITIONER. PRESS AND HOLD SIGNAL CONDITIONER TEST SW. IS CRUISE GUIDE POINTER IN TEST BAND?
YES
NO
REPLACE FORWARD LCT CONNECTING LINK.
DISCONNECT PLUG 036P5 FROM SIGNAL CONDITIONER. DISCONNECT PLUG 036P4 FROM SIGNAL PROCESSOR. CHECK FOR CONTINUITY BETWEEN PLUG 036P4 PIN 5 AND PLUG 036P5 PIN 5. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W528-50-20, W668-107-20, W666-6-20, W673-128-20, OR W639-272-20 BETWEEN PLUG 036P4 AND PLUG 036P5. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR CONTINUITY BETWEEN PLUG 036P4 PIN 7 AND PLUG 036P5 PIN 7. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W528-53-20, W668-111-20, W666-9-20, W673-131-20, OR W639-275-20 BETWEEN PLUG 036P4 AND PLUG 036P5. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR CONTINUITY BETWEEN PLUG 036P4 PIN 9 AND PLUG 036P5 PIN 12. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W528-51-20, W668-108-20, W666-7-20, W673-129-20, OR W639-273-20 BETWEEN PLUG 036P4 AND PLUG 036P5. REPAIR OR REPLACE WIRE AS REQUIRED.

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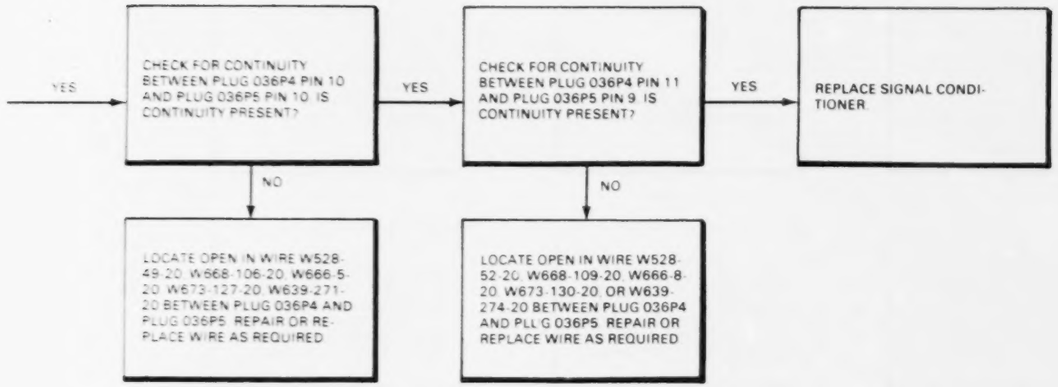
8-12.6 CRUISE GUIDE INDICATOR POINTER NOT IN TEST BAND WITH CGI TEST SWITCH AT FWD (Continued)


YES
CHECK FOR CONTINUITY BETWEEN PLUG 036P4 PIN 10 AND PLUG 036P5 PIN 10. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 036P4 PIN 11 AND PLUG 036P5 PIN 9. IS CONTINUITY PRESENT?
YES
REPLACE SIGNAL CONDITIONER.
NO
LOCATE OPEN IN WIRE W528-49-20, W668-106-20, W666-5-20, W673-127-20, W639-271-20 BETWEEN PLUG 036P4 AND PLUG 036P5. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W528-52-20, W668-109-20, W666-8-20, W673-130-20, OR W639-274-20 BETWEEN PLUG 036P4 AND PLUG 036P5. REPAIR OR REPLACE WIRE AS REQUIRED.

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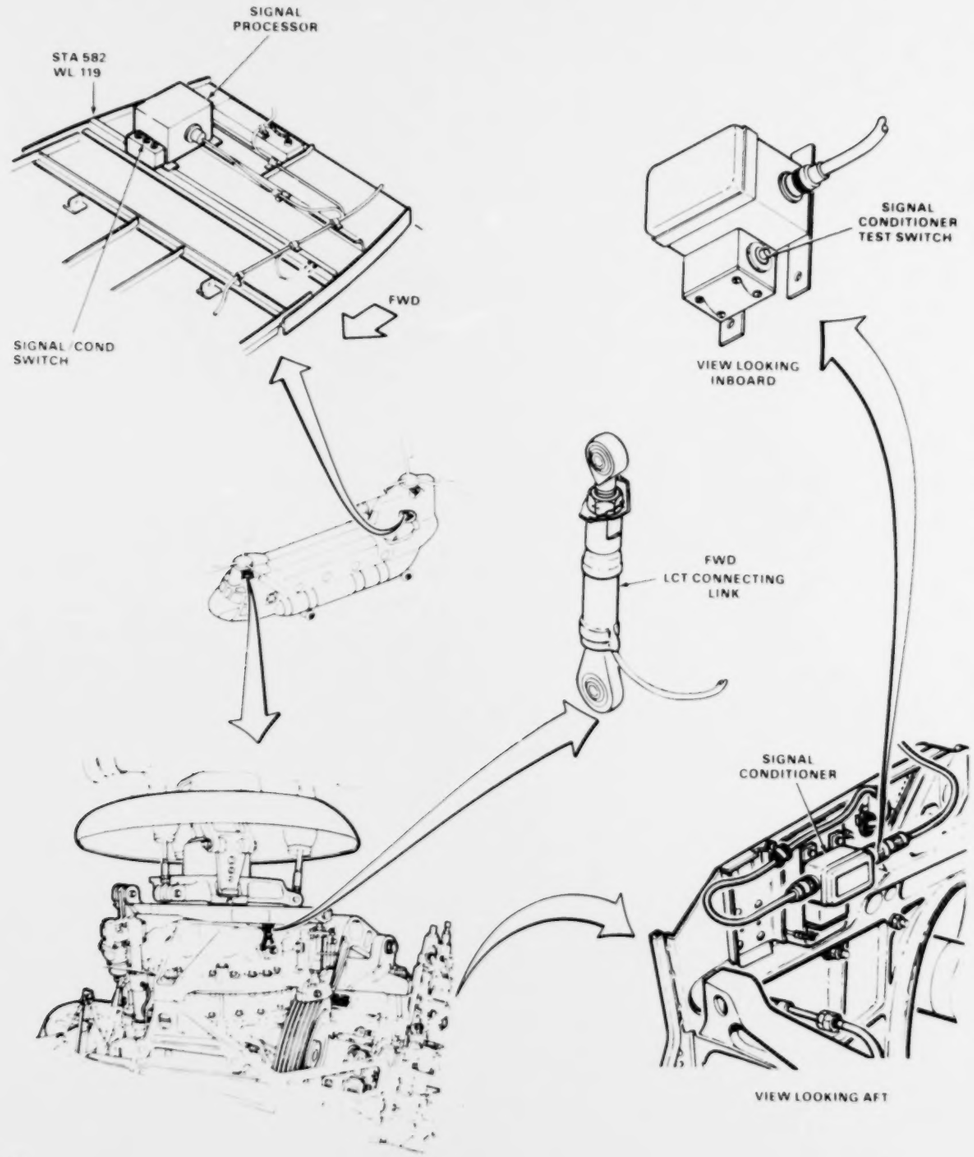
8-12.6 CRUISE GUIDE INDICATOR POINTER NOT IN TEST BAN WITH CGI TEST SWITCH AT FWD (Continued)



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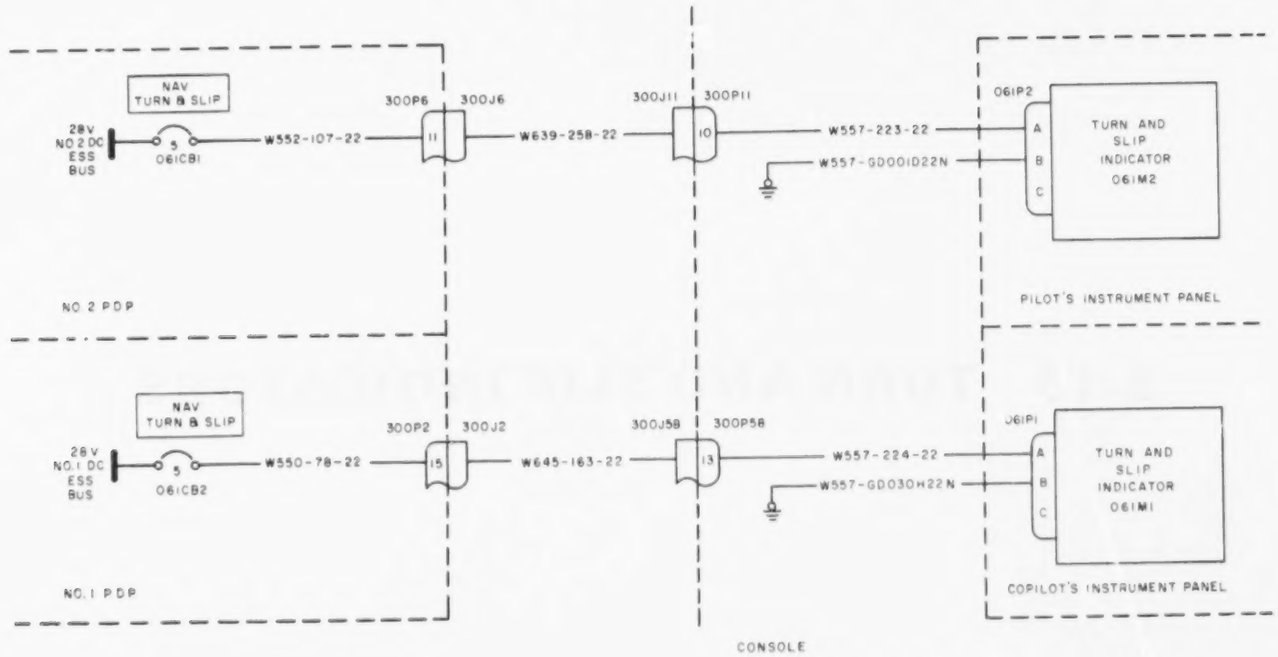
END OF TASK

8-13 TURN AND SLIP INDICATORS

8-13 TURN AND SLIP INDICATORS

8-13.1 TURN AND SLIP INDICATORS WIRING DIAGRAM



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8-13.2 TURN AND SLIP INDICATORS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

Personnel Required:
68F10 Aircraft Electrician

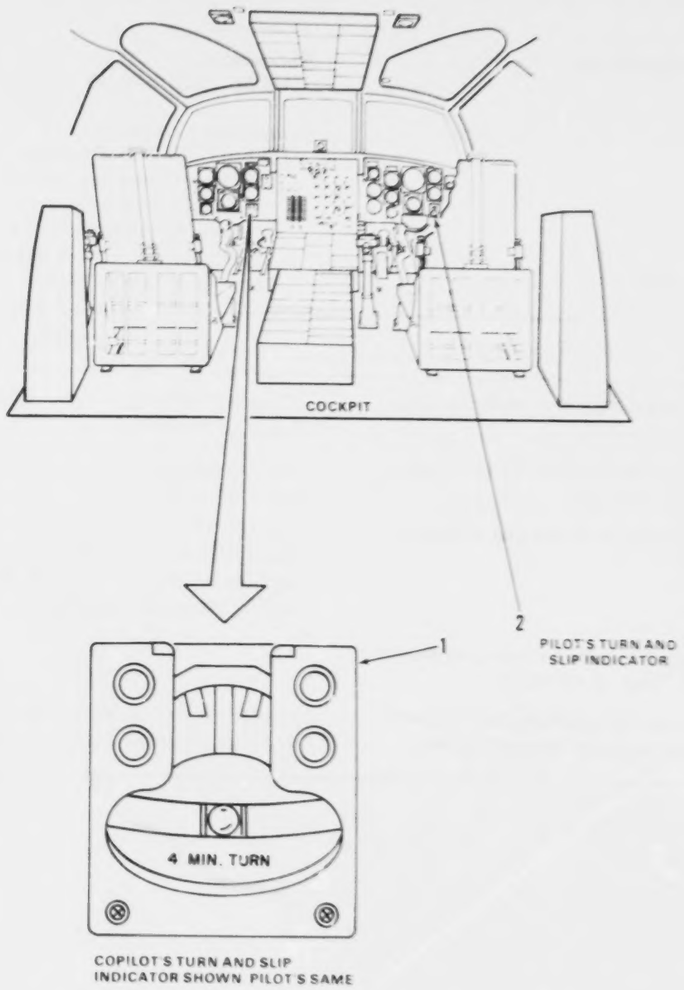
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1 **Check copilot's turn and slip indicator (1).**	If indicator (1) is loose or damaged, tighten or replace it as required.
2 **Check pilot's turn and slip indicator (2).**	If indicator (2) is loose or damaged, tighten or replace it as required.

FOLLOW-ON MAINTENANCE:

None



COPILOT'S TURN AND SLIP INDICATOR SHOWN. PILOT'S SAME

45 x 54

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END OF TASK

8-13.3 TURN AND SLIP INDICATORS OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Inclinometer

Materials:
None

Personnel Required:
68F10 Aircraft Electrician

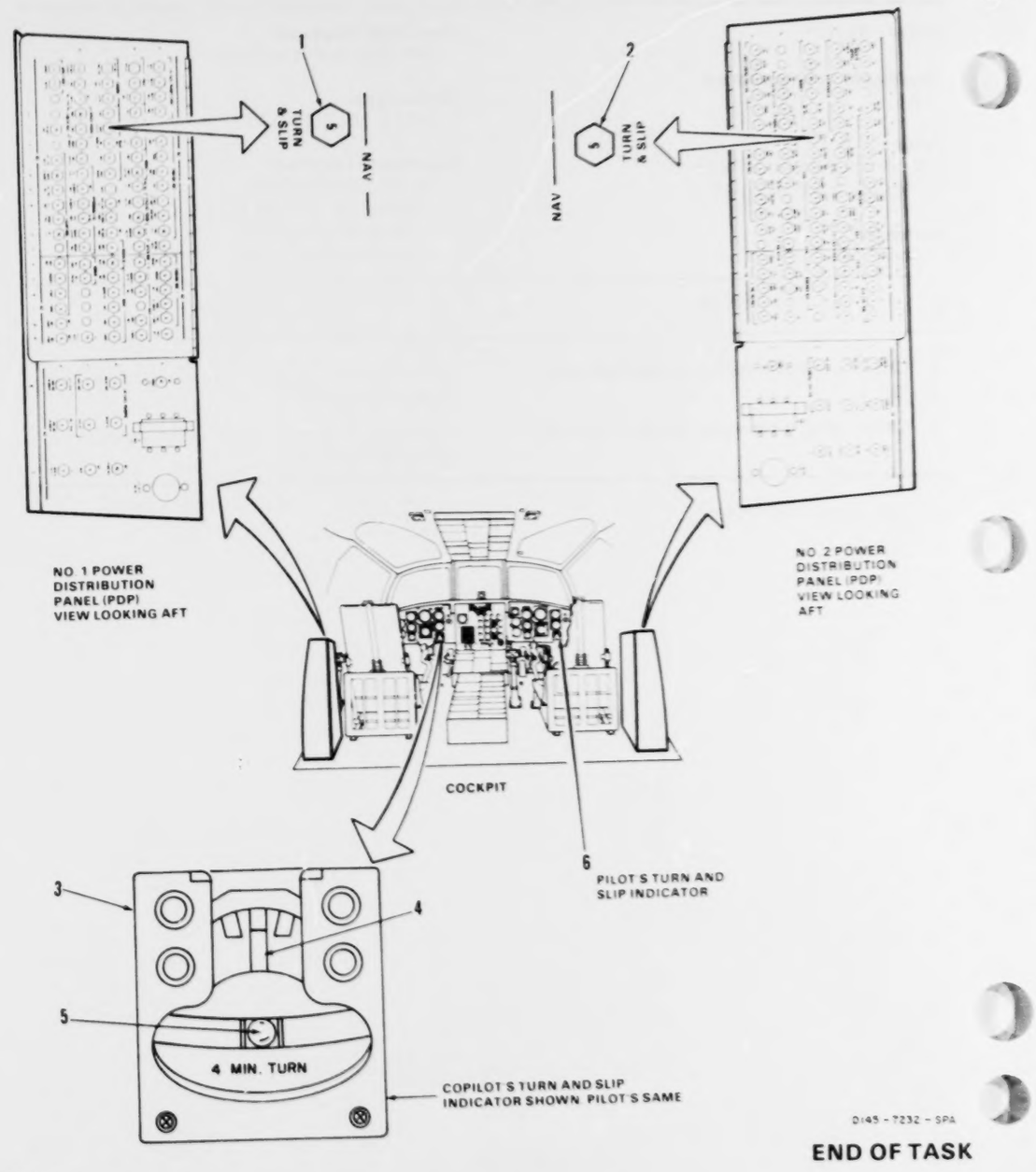
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off
Visual Check of Turn and Slip Indicators Performed (Task 8-13.2)

TASK	RESULT
1 **Check** that **NAV TURN & SLIP circuit breaker (1)** is closed.	If circuit breaker (1) is open, close it. If it opens again, go to task 8-13.4.
2 **Check** that **NAV TURN & SLIP circuit breaker (2)** is closed.	If circuit breaker (2) is open, close it. If it opens again, go to task 8-13.4.
3 **Check copilot's turn and slip indicator (3).**	If pointer (4) is not centered, replace indicator (3). If ball (5) is not centered, use inclinometer to verify ball position. If ball position does not agree with inclinometer, replace indicator.
4 **Repeat step 3 for pilot's turn and slip indicator (6).** Then, go to step 5.	
5 **On next flight, have pilots check operation of their turn and slip indicators.**	Pointer (4) on indicators (3 and 6) shall move in direction of turn. If it does not, go to task 8-13.5.

FOLLOW-ON MAINTENANCE

TM 55-1520-240-23
Battery Disconnected
Electrical Power Off



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END OF TASK

8-13.4 TURN AND SLIP CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

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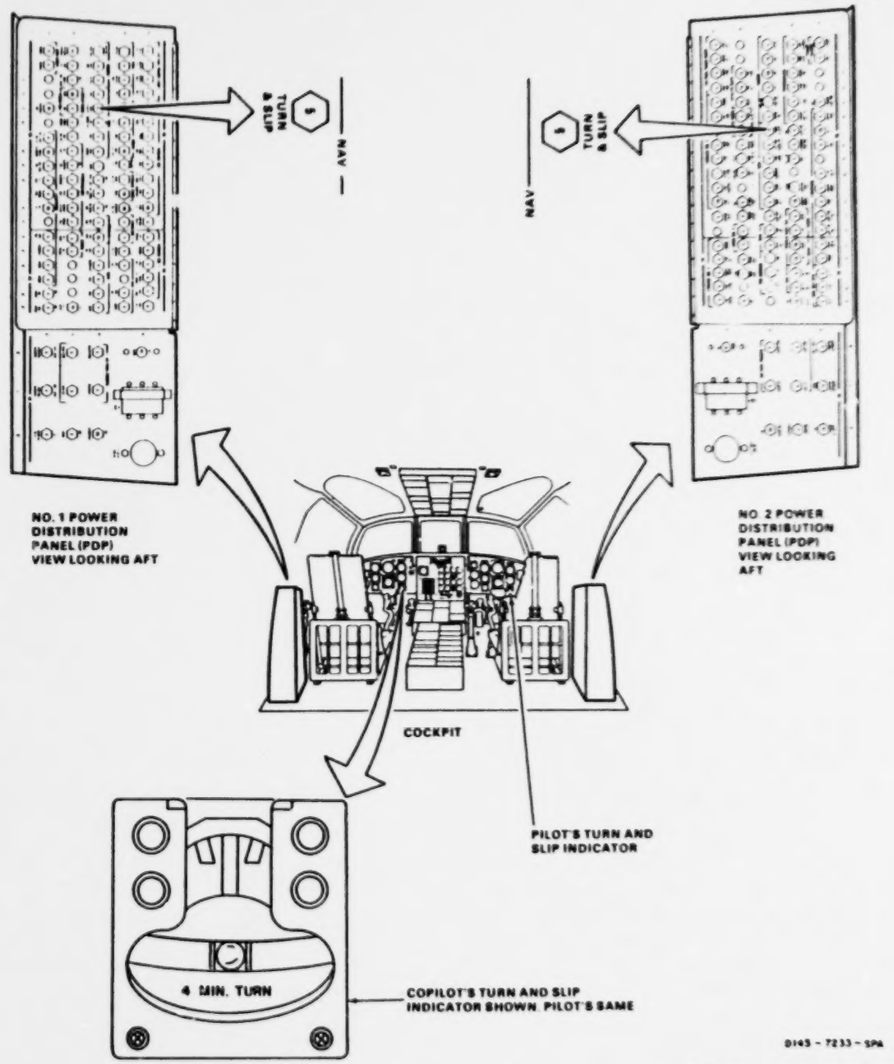
NAV
TURN & SLIP
NAV
TURN & SLIP
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
NO. 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
COCKPIT
PILOT'S TURN AND SLIP INDICATOR
4 MIN. TURN
COPILOT'S TURN AND SLIP INDICATOR SHOWN. PILOT'S SAME

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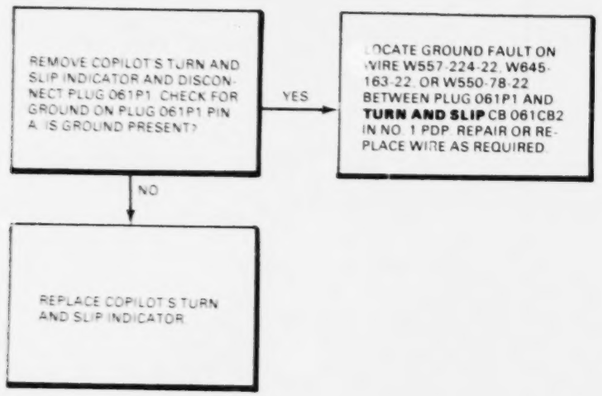
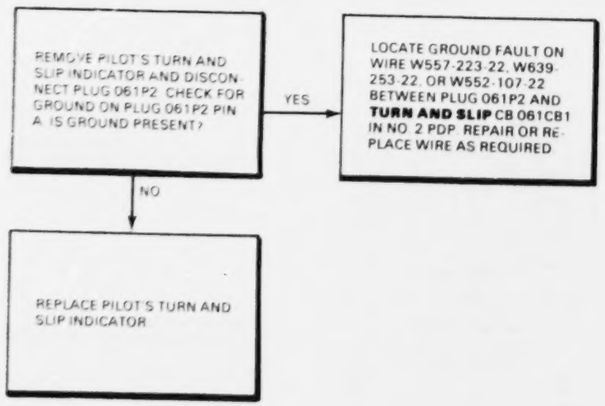
8-13.4 TURN AND SLIP CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)

TURN AND SLIP CIRCUIT BREAKER (NO. 1 PDP) DOES NOT STAY CLOSED


REMOVE COPILOT'S TURN AND SLIP INDICATOR AND DISCONNECT PLUG 061P1. CHECK FOR GROUND ON PLUG 061P1 PIN A. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W557-224-22, W645-163-22, OR W550-78-22 BETWEEN PLUG 061P1 AND TURN AND SLIP CB 061CB2 IN NO. 1 PDP. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE COPILOT'S TURN AND SLIP INDICATOR.

TURN AND SLIP CIRCUIT BREAKER (NO. 2 PDP) DOES NOT STAY CLOSED


REMOVE PILOT'S TURN AND SLIP INDICATOR AND DISCONNECT PLUG 061P2. CHECK FOR GROUND ON PLUG 061P2 PIN A. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W557-223-22, W639-253-22, OR W552-107-22 BETWEEN PLUG 061P2 AND TURN AND SLIP CB 061CB1 IN NO. 2 PDP. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE PILOT'S TURN AND SLIP INDICATOR.

END OF TASK

8-13.5 TURN AND SLIP INDICATOR POINTER DOES NOT MOVE IN DIRECTION OF TURN

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

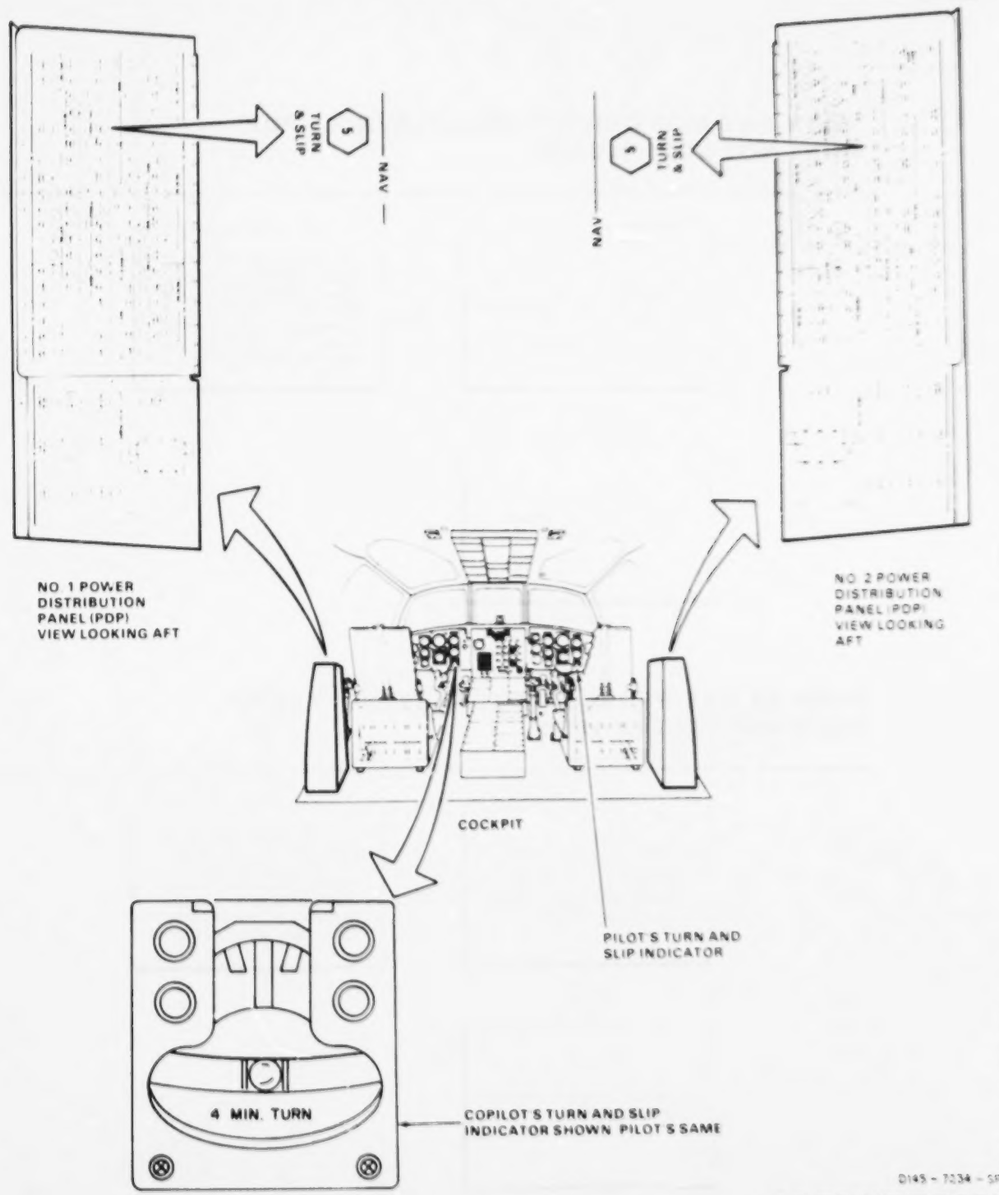
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off


5
TURN & SLIP
NAV
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
NO. 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
COCKPIT
PILOT'S TURN AND SLIP INDICATOR
4 MIN. TURN
COPILOT'S TURN AND SLIP INDICATOR SHOWN. PILOT'S SAME

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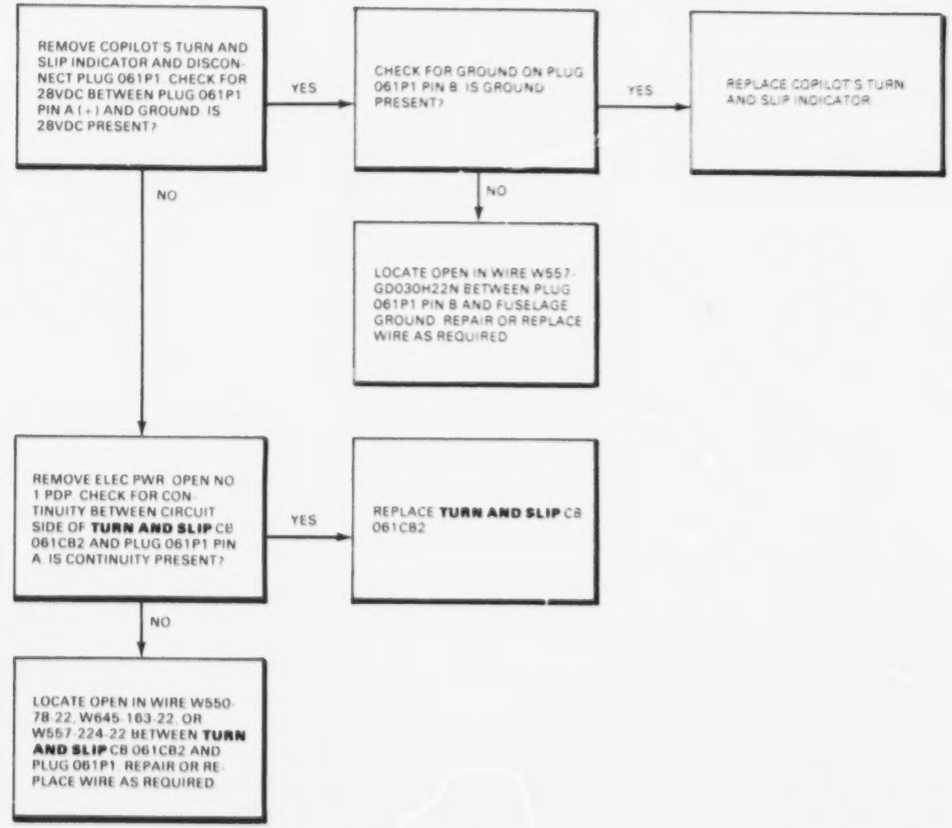
8-13.5 TURN AND SLIP INDICATOR POINTER DOES NOT MOVE IN DIRECTION OF TURN (Continued)

PILOT'S TURN AND SLIP INDICATOR POINTER DOES NOT MOVE IN DIRECTION OF TURN

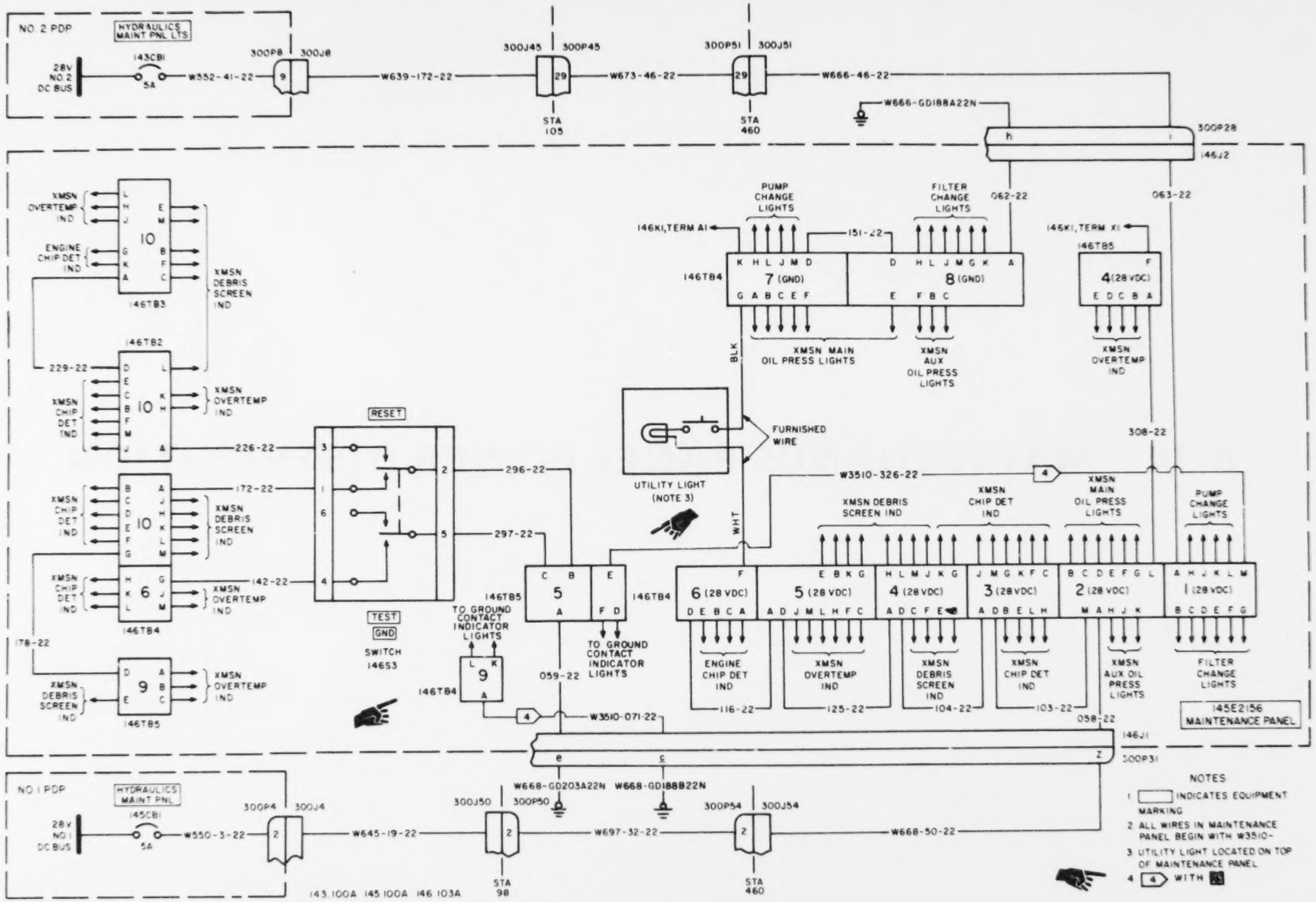
REMOVE PILOT'S TURN AND SLIP INDICATOR AND DISCONNECT PLUG 061P2. CHECK FOR 28VDC BETWEEN PLUG 061P2 PIN A (+) AND GROUND. IS 28VDC PRESENT?
YES
CHECK FOR GROUND ON PLUG 061P2 PIN B. IS GROUND PRESENT?
YES
REPLACE PILOT'S TURN AND SLIP INDICATOR
NO
NO
LOCATE OPEN IN WIRE W557-GD001D22N BETWEEN PLUG 061P2 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE ELEC PWR. OPEN NO 2 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF TURN AND SLIP CB 061CB1 AND PLUG 061P2 PIN A. IS CONTINUITY PRESENT?
YES
REPLACE TURN AND SLIP CB 061CB1
NO
LOCATE OPEN IN WIRE W552-107-22, W639-253-22, OR W557-223-22 BETWEEN TURN AND SLIP CB 061CB1 AND PLUG 061P2. REPAIR OR REPLACE WIRE AS REQUIRED

COPILOT'S TURN AND SLIP INDICATOR POINTER DOES NOT MOVE IN DIRECTION OF TURN


REMOVE COPILOT'S TURN AND SLIP INDICATOR AND DISCONNECT PLUG 061P1. CHECK FOR 28VDC BETWEEN PLUG 061P1 PIN A (+) AND GROUND. IS 28VDC PRESENT?
YES
CHECK FOR GROUND ON PLUG 061P1 PIN B. IS GROUND PRESENT?
YES
REPLACE COPILOT'S TURN AND SLIP INDICATOR
NO
NO
LOCATE OPEN IN WIRE W557-GD030H22N BETWEEN PLUG 061P1 PIN B AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE ELEC PWR. OPEN NO 1 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF TURN AND SLIP CB 061CB2 AND PLUG 061P1 PIN A. IS CONTINUITY PRESENT?
YES
REPLACE TURN AND SLIP CB 061CB2
NO
LOCATE OPEN IN WIRE W550-78-22, W645-163-22, OR W557-224-22 BETWEEN TURN AND SLIP CB 061CB2 AND PLUG 061P1. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-14 MAINTENANCE PANEL POWER DISTRIBUTION


NO 2 PDP
HYDRAULICS MAINT PNL LTS
28V NO.2 DC BUS
143CB1
5A
W552-41-22
300P8
300J8
W639-172-22
300J45
300P45
W673-46-22
300P51
300J51
W666-46-22
STA 105
STA 460
W666-GD188A22N
300P28
146J2
XMSN OVERTEMP IND
ENGINE CHIP DET IND
XMSN DEBRIS SCREEN IND
146TB3
146TB2
229-22
XMSN CHIP DET IND
XMSN OVERTEMP IND
226-22
RESET
172-22
XMSN DEBRIS SCREEN IND
142-22
178-22
146TB4
146TB5
TEST
GND
SWITCH 14653
TO GROUND CONTACT INDICATOR LIGHTS
059-22
TO GROUND CONTACT INDICATOR LIGHTS
W3510-071-22
PUMP CHANGE LIGHTS
FILTER CHANGE LIGHTS
062-22
063-22
146K1,TERM A1
151-22
146K1,TERM X1
146TB85
7 (GND)
8 (GND)
4 (28 VDC)
XMSN MAIN OIL PRESS LIGHTS
XMSN AUX OIL PRESS LIGHTS
XMSN OVERTEMP IND
BLK
FURNISHED WIRE
UTILITY LIGHT (NOTE 3)
WHT
308-22
W3510-326-22
XMSN DEBRIS SCREEN IND
XMSN CHIP DET IND
XMSN MAIN OIL PRESS LIGHTS
PUMP CHANGE LIGHTS
6 (28 VDC)
5 (28 VDC)
4 (28 VDC)
3 (28 VDC)
2 (28 VDC)
1 (28 VDC)
ENGINE CHIP DET IND
XMSN OVERTEMP IND
XMSN DEBRIS SCREEN IND
XMSN CHIP DET IND
XMSN AUX OIL PRESS LIGHTS
FILTER CHANGE LIGHTS
116-22
125-22
104-22
103-22
058-22
145E2156 MAINTENANCE PANEL
146J1
300P31
W668-GD203A22N
W668-GD188B22N
NO 1 PDP
HYDRAULICS MAINT PNL
28V NO.1 DC BUS
145CB1
5A
W550-3-22
300P4
300J4
W645-19-22
300J50
300P50
W697-32-22
300P54
300J54
W668-50-22
STA 98
STA 460
143,100A 145,100A 146,103A
NOTES
1 INDICATES EQUIPMENT MARKING
2 ALL WIRES IN MAINTENANCE PANEL BEGIN WITH W3510-
3 UTILITY LIGHT LOCATED ON TOP OF MAINTENANCE PANEL
4 WITH
1025I

8-14.2 MAINTENANCE PANEL POWER DISTRIBUTION VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

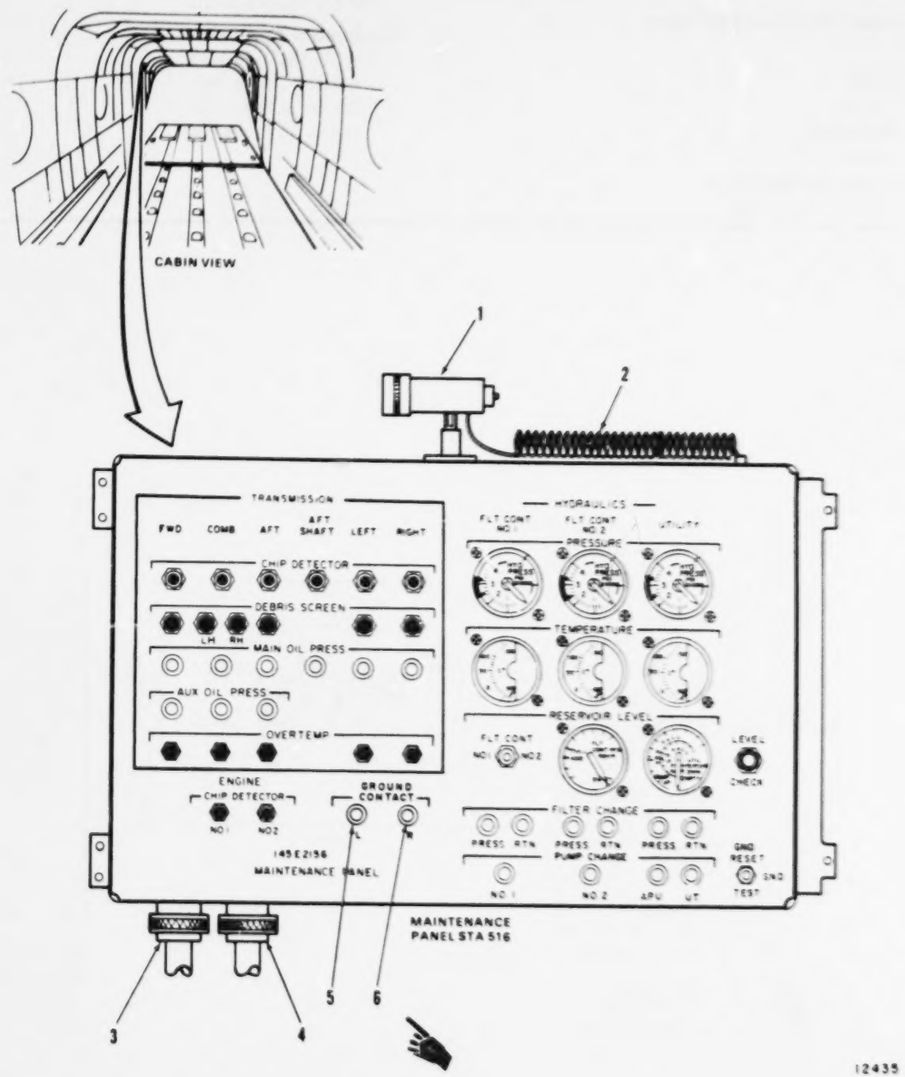
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check maintenance panel light (1) and cord (2).**	If light (1) is damaged, replace it. If cord (2) is damaged, replace light.
2. **Check electrical connectors (3 and 4).**	If either connector (3 or 4) is loose or damaged, tighten or replace it as required. If wires to either connector are damaged, repair or replace them as required.
3. **With 25, check left and right GROUND CONTACT lights (5 and 6).**	If either light (5 or 6) is loose or damaged, tighten or replace it as required.

FOLLOW-ON MAINTENANCE:
None



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END OF TASK

8-14.3 MAINTENANCE PANEL POWER DISTRIBUTION OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

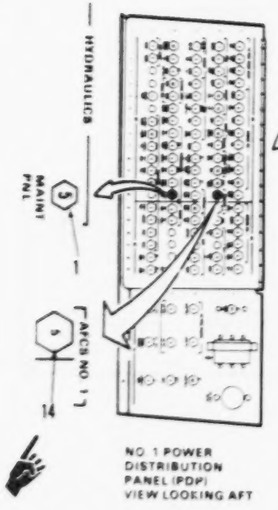
Tools:
None

Materials:
None

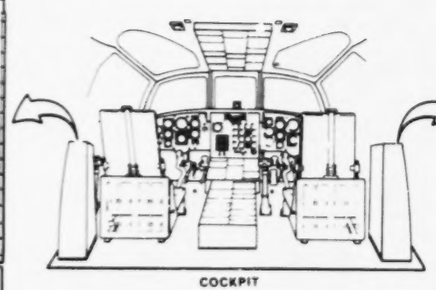
Personnel Required:
Aircraft Electrician

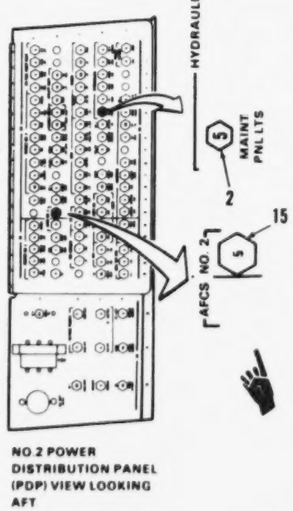
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off

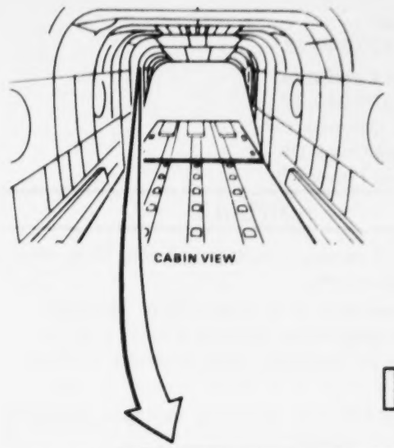


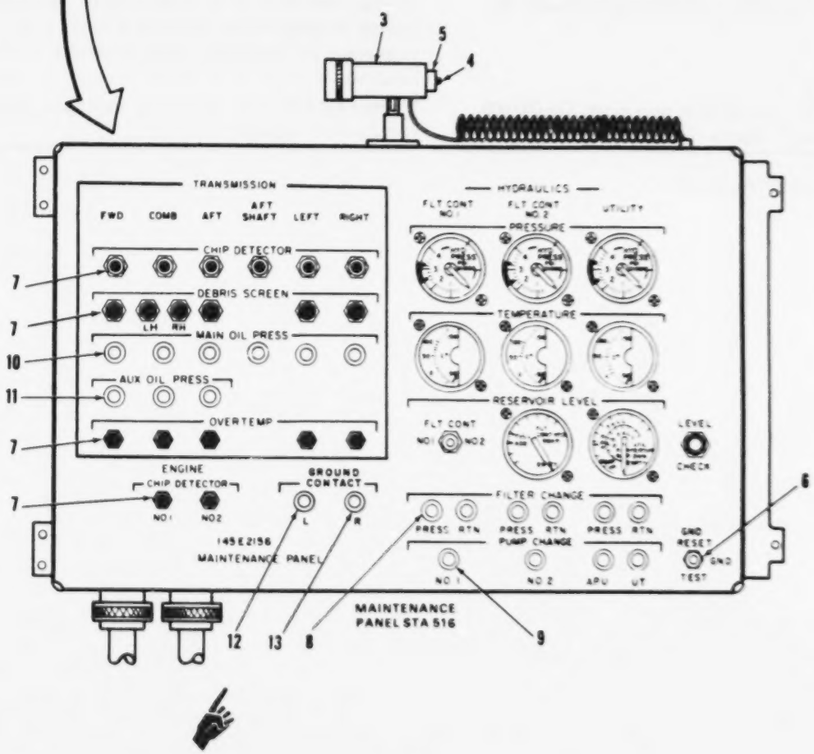
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT





NO.2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT





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TASK	RESULT
1. **Check** that **HYDRAULICS MAINT PNL circuit breaker (1)** is closed.	If MAINT PNL circuit breaker (1) is open, close it. If it opens again, go to task 8-14.4.
2. **Check** that **HYDRAULICS MAINT PNL LTS circuit breaker (2)** is closed.	If MAINT PNL LTS circuit breaker (2) is open, close it. If it opens again, go to task 8-14.5 (without 25). With 25, go to task 8-14.10.
2.1 **With 25, check** that **AFCS NO. 1 circuit breaker (14)** is closed.	If AFCS NO. 1 circuit breaker (14) is open, close it. If it opens again, go to task 11-3.6.
2.2 **With 25, check** that **AFCS NO. 2 circuit breaker (15)** is closed.	If AFCS NO. 2 circuit breaker (15) is open, close it. If it opens again, go to task 11-3.11.
3. **Remove maintenance panel light (3)** from bracket. **Press and release switch (4). Turn control (5) through its range.**	Light (3) shall blink when switch (4) pressed and released. Light shall become brighter as dimming control (5) is turned. If light does not come on, go to task 8-14.6. If light comes on but does not become brighter, replace light.
4. **Set GND switch (6) to TEST.**	All 19 indicators (7) shall change from all black to black-and-white fan displays. If one or more indicators has not changed display, go to task 8-14.7.
5. **Set GND switch (6) to RESET, then to GND.**	All 19 indicators (7) shall change from black-and-white fan displays to all-black displays. If one or more indicators has not changed display, go to task 8-14.8.
6. **Press** and **release FILTER CHANGE PRESS light (8)** and **PUMP CHANGE NO. 1 light (9).**	All lights (8 and 9) shall momentarily come on. If all lights do not come on, go to task 8-14.9.
7. Check that all six transmission main oil PRESS lights (10) and three transmission AUX OIL PRESS lights (11) are lit.	If any light is not lit, replace lamp. If light still is not on, go to task 8-9.3.
8. **With 25, check** that **left and right GROUND CONTACT lights (12 and 13)** are lit.	If left GROUND CONTACT light (12) is not lit, go to task 3-1.5. If right GROUND CONTACT light (13) is not lit, go to task 3-1.7.

NOTE

Remainder of operations are checked with each individual system check.

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23
Battery disconnected.
Electrical power off.

END OF TASK

8-14.4 HYDRAULICS MAINT PNL CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

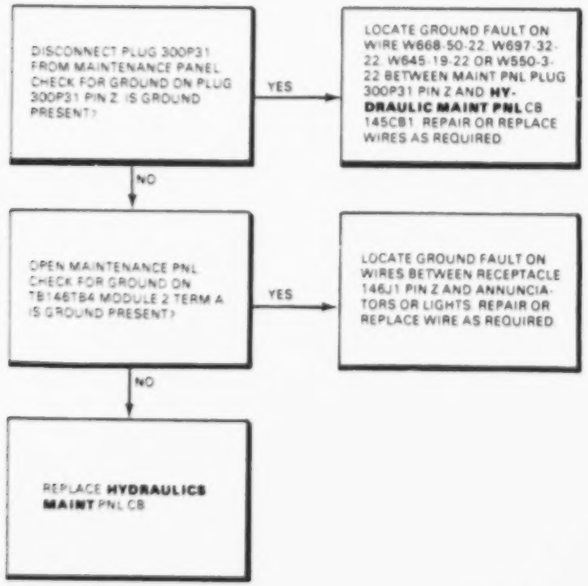
Tools:
Electrical Repairer s Tool Kit,
NSN 5180-00-323-4915
Multimeter

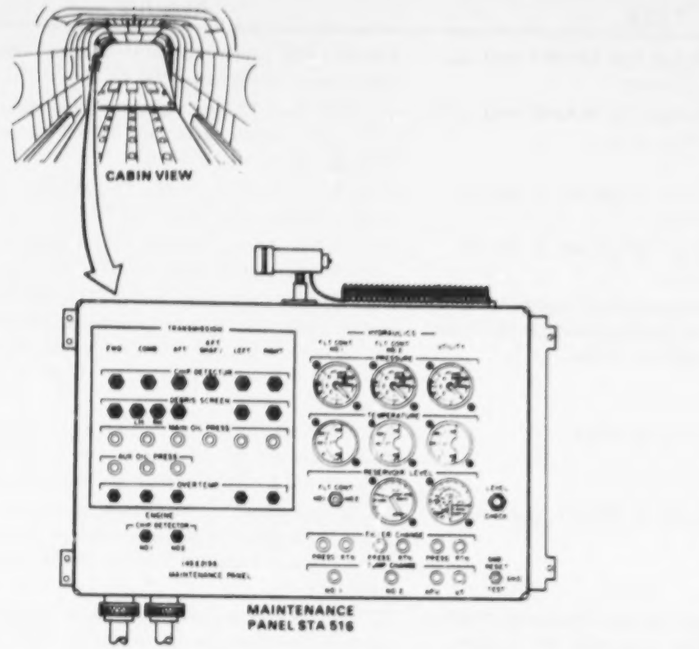
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off


DISCONNECT PLUG 300P31 FROM MAINTENANCE PANEL CHECK FOR GROUND ON PLUG 300P31 PIN Z. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W668-50-22, W697-32-22, W645-19-22 OR W550-3-22 BETWEEN MAINT PNL PLUG 300P31 PIN Z AND HYDRAULIC MAINT PNL CB 145CB1. REPAIR OR REPLACE WIRES AS REQUIRED.
NO
OPEN MAINTENANCE PNL CHECK FOR GROUND ON TB146TB4 MODULE 2 TERM A IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRES BETWEEN RECEPTACLE 146J1 PIN Z AND ANNUNCIATORS OR LIGHTS. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE HYDRAULICS MAINT PNL CB.



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END OF TASK

8-14.5 HYDRAULICS MAINT PNL LTS CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 25

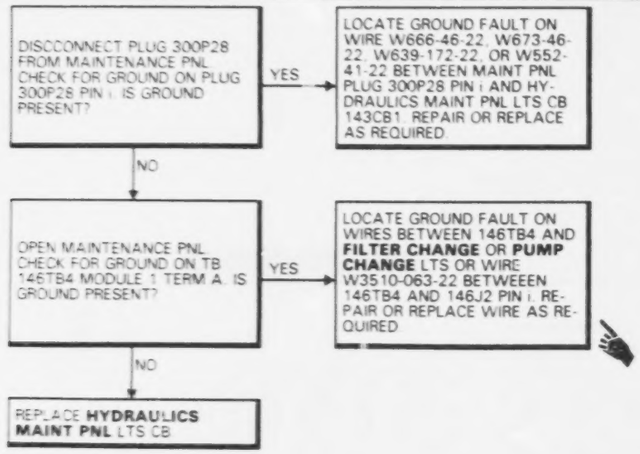
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

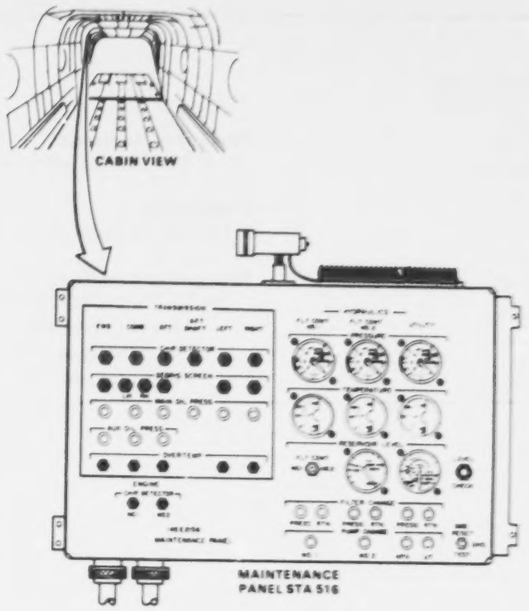
Materials:
None

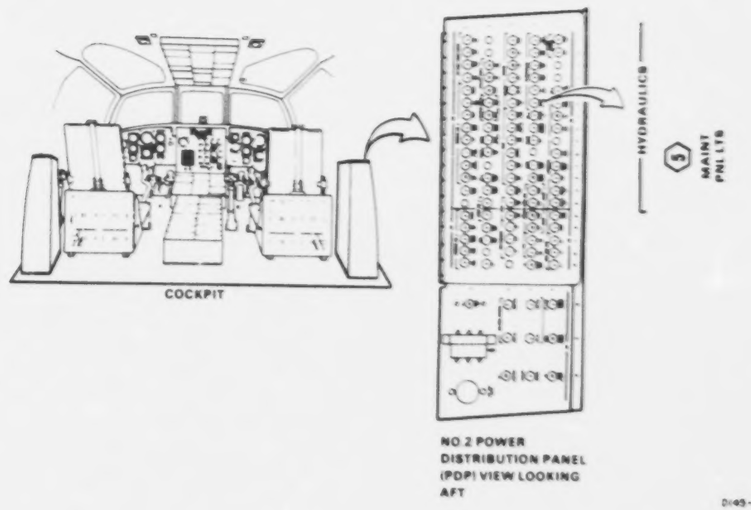
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off


DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL. CHECK FOR GROUND ON PLUG 300P28 PIN i. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W666-46-22, W673-46-22, W639-172-22, OR W552-41-22 BETWEEN MAINT PNL PLUG 300P28 PIN i AND HYDRAULICS MAINT PNL LTS CB 143CB1. REPAIR OR REPLACE AS REQUIRED.
NO
OPEN MAINTENANCE PNL. CHECK FOR GROUND ON TB 146TB4 MODULE 1 TERM A. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRES BETWEEN 146TB4 AND **FILTER CHANGE** OR **PUMP CHANGE** LTS OR WIRE W3510-063-22 BETWEEEN 146TB4 AND 146J2 PIN i. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE **HYDRAULICS MAINT PNL** LTS CB





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END OF TASK

8-14.6 MAINTENANCE PANEL UTILITY LIGHT WILL NOT COME ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

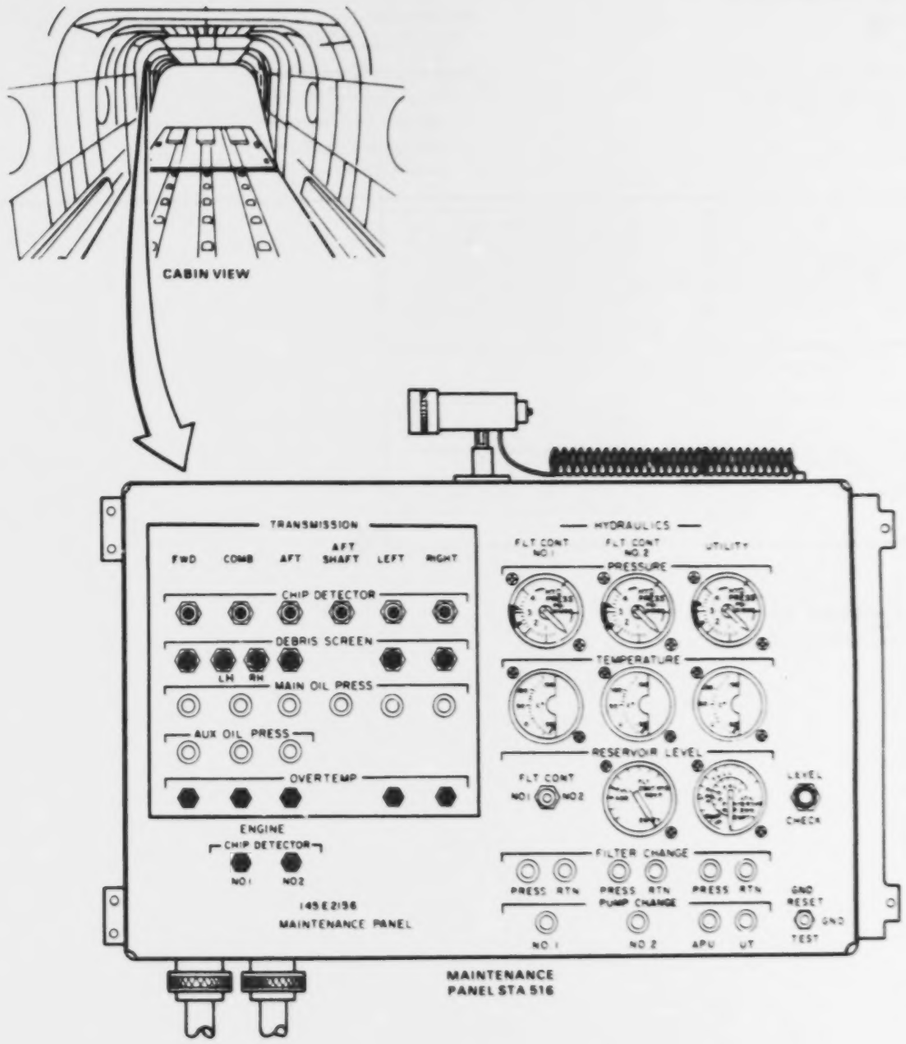
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23;
Battery Connected
Electrical Power On
Hydraulic Power Off



MAINTENANCE PANEL STA 516

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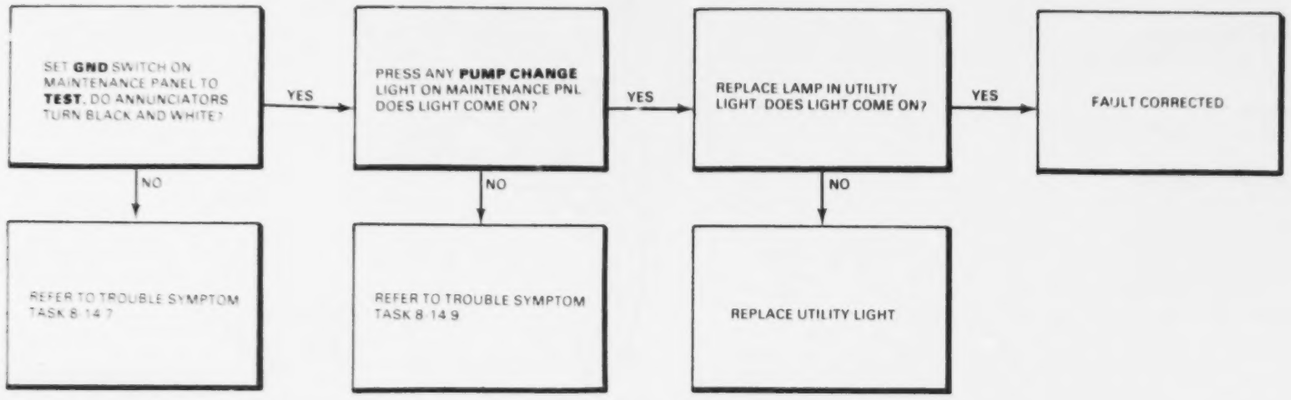
8-14.6 MAINTENANCE PANEL UTILITY LIGHT WILL NOT COME ON (Continued)


SET GND SWITCH ON MAINTENANCE PANEL TO TEST. DO ANNUNCIATORS TURN BLACK AND WHITE?
YES
PRESS ANY PUMP CHANGE LIGHT ON MAINTENANCE PNL DOES LIGHT COME ON?
YES
REPLACE LAMP IN UTILITY LIGHT. DOES LIGHT COME ON?
YES
FAULT CORRECTED
NO
REFER TO TROUBLE SYMPTOM TASK 8-14-7
NO
REFER TO TROUBLE SYMPTOM TASK 8-14-9
NO
REPLACE UTILITY LIGHT

END OF TASK

8-14.7 INDICATORS DO NOT TURN BLACK AND WHITE WITH GND TEST SWITCH AT TEST

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

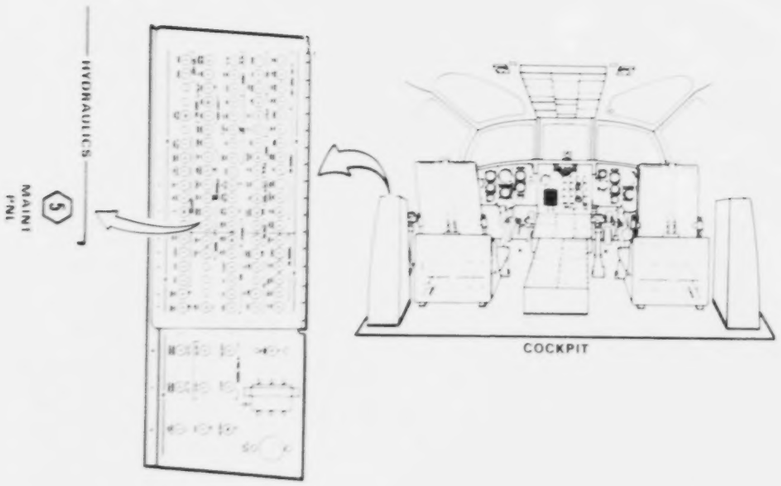
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

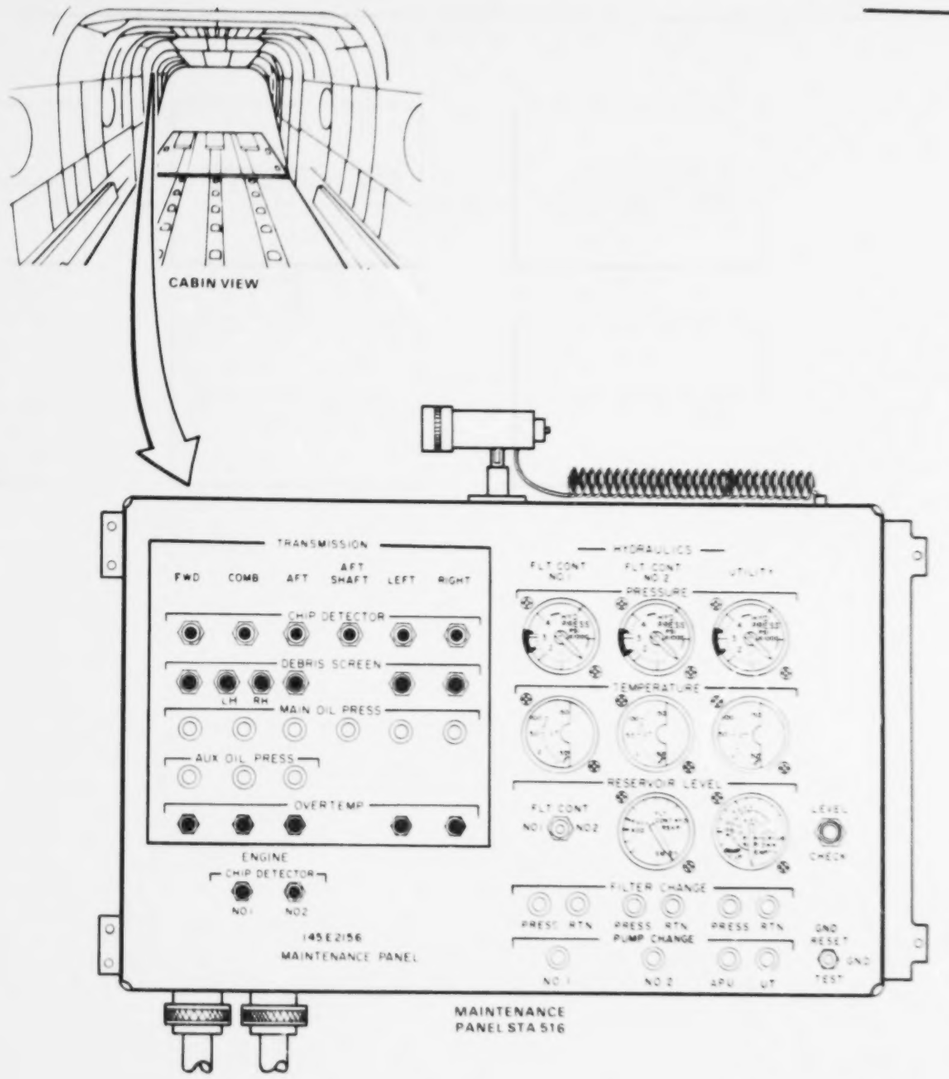
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



NO 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT

90454



MAINTENANCE PANEL STA 516

D145-8948-6PA

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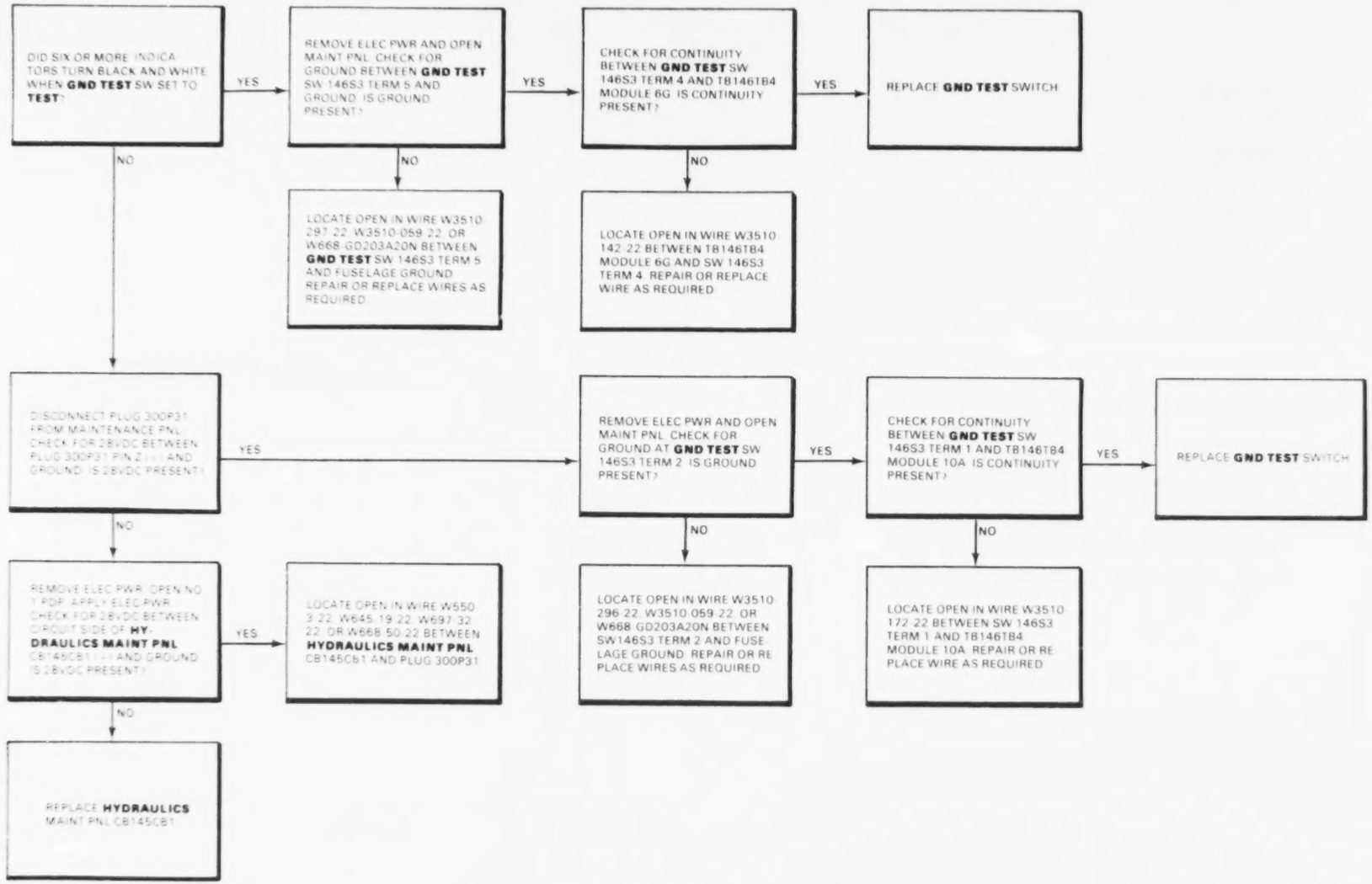
8-14.7 INDICATORS DO NOT TURN BLACK AND WHITE WITH GND TEST SWITCH AT TEST (Continued)


DID SIX OR MORE INDICATORS TURN BLACK AND WHITE WHEN **GND TEST** SW SET TO **TEST**?
YES
REMOVE ELEC PWR AND OPEN MAINT PNL. CHECK FOR GROUND BETWEEN **GND TEST** SW 146S3 TERM 5 AND GROUND. IS GROUND PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN **GND TEST** SW 146S3 TERM 4 AND TB146TB4 MODULE 6G. IS CONTINUITY PRESENT?
YES
REPLACE **GND TEST** SWITCH
NO
LOCATE OPEN IN WIRE W3510-297-22, W3510-059-22, OR W668-GD203A20N BETWEEN **GND TEST** SW 146S3 TERM 5 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRES AS REQUIRED.
NO
LOCATE OPEN IN WIRE W3510-142-22 BETWEEN TB146TB4 MODULE 6G AND SW 146S3 TERM 4. REPAIR OR REPLACE WIRE AS REQUIRED.
DISCONNECT PLUG 300P31 FROM MAINTENANCE PNL. CHECK FOR 28VDC BETWEEN PLUG 300P31 PIN Z(+) AND GROUND. IS 28VDC PRESENT?
YES
REMOVE ELEC PWR AND OPEN MAINT PNL. CHECK FOR GROUND AT **GND TEST** SW 146S3 TERM 2. IS GROUND PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN **GND TEST** SW 146S3 TERM 1 AND TB146TB4 MODULE 10A. IS CONTINUITY PRESENT?
YES
REPLACE **GND TEST** SWITCH
NO
REMOVE ELEC PWR. OPEN NO 1 PDP. APPLY ELEC PWR. CHECK FOR 28VDC BETWEEN CIRCUIT SIDE OF **HYDRAULICS MAINT PNL** CB145CB1 (+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W550-3-22, W645-19-22, W697-32-22, OR W668-50-22 BETWEEN **HYDRAULICS MAINT PNL** CB145CB1 AND PLUG 300P31
NO
REPLACE **HYDRAULICS** MAINT PNL CB145CB1
NO
LOCATE OPEN IN WIRE W3510-296-22, W3510-059-22, OR W668-GD203A20N BETWEEN SW146S3 TERM 2 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRES AS REQUIRED
NO
LOCATE OPEN IN WIRE W3510-172-22 BETWEEN SW 146S3 TERM 1 AND TB146TB4 MODULE 10A. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-14.8 INDICATOR WILL NOT TURN ALL BLACK WITH GND TEST SWITCH AT RESET

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

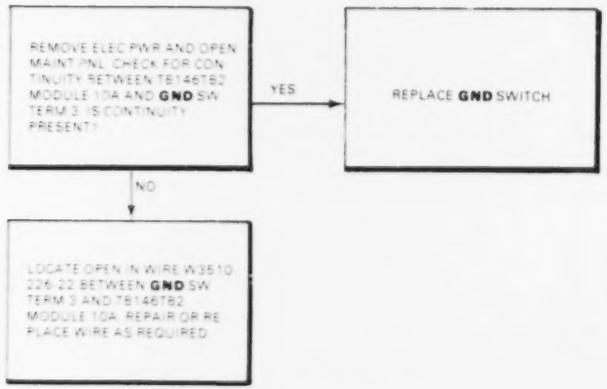
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

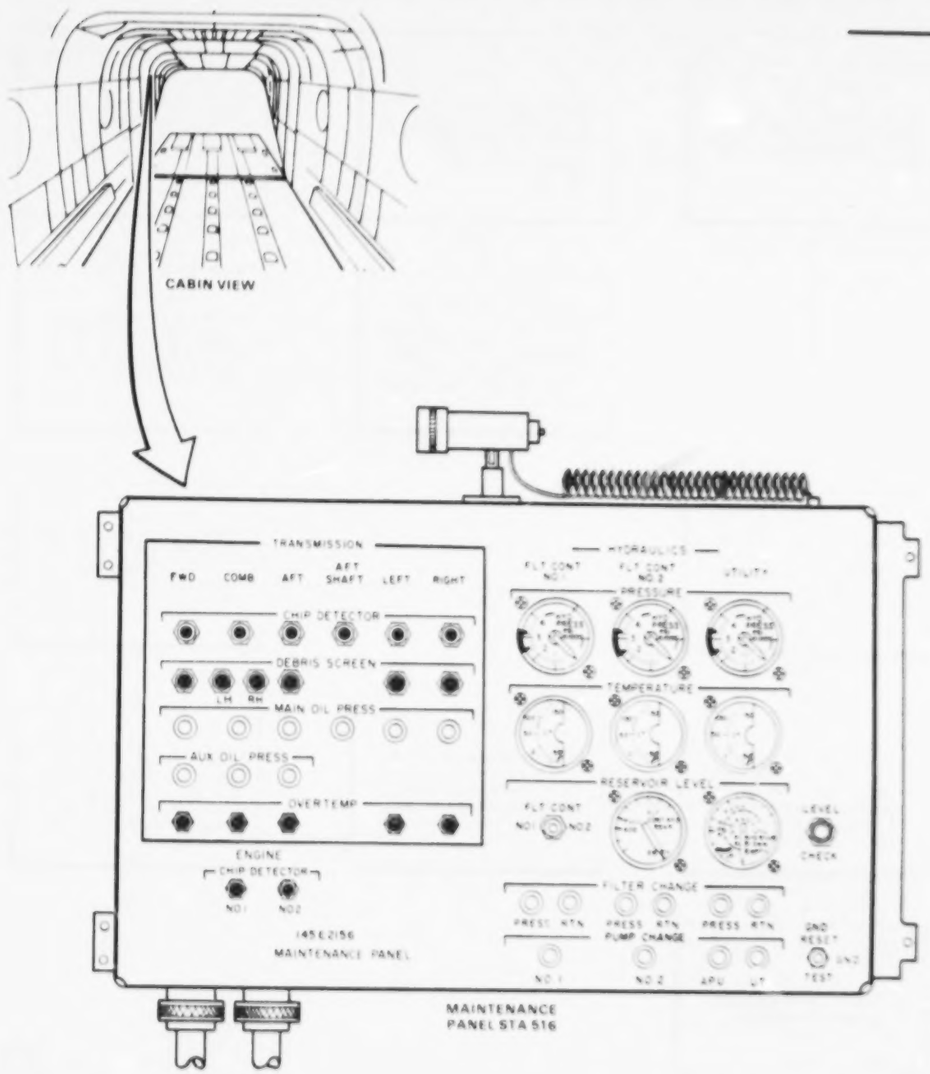
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off


REMOVE ELEC PWR AND OPEN MAINT PNL. CHECK FOR CONTINUITY BETWEEN TB146TB2 MODULE 10A AND GND SW TERM 3. IS CONTINUITY PRESENT?
YES
REPLACE GND SWITCH
NO
LOCATE OPEN IN WIRE W3510-22-6-22 BETWEEN GND SW TERM 3 AND TB146TB2 MODULE 10A. REPAIR OR REPLACE WIRE AS REQUIRED



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0145-8848-SPA

END OF TASK

8-14.9 FILTER CHANGE AND PUMP CHANGE LIGHTS DO NOT COME ON WHEN PRESSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

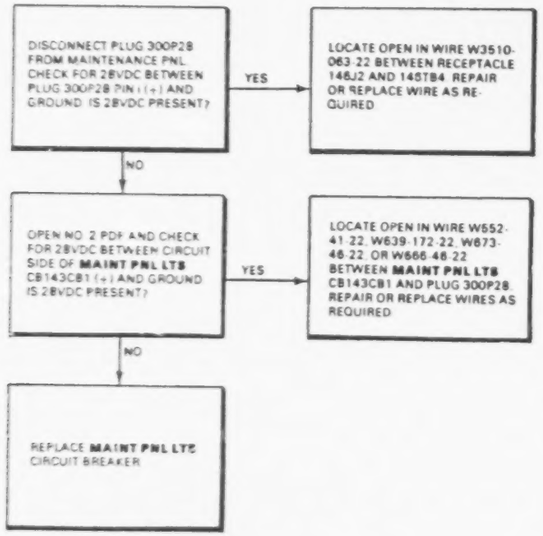
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

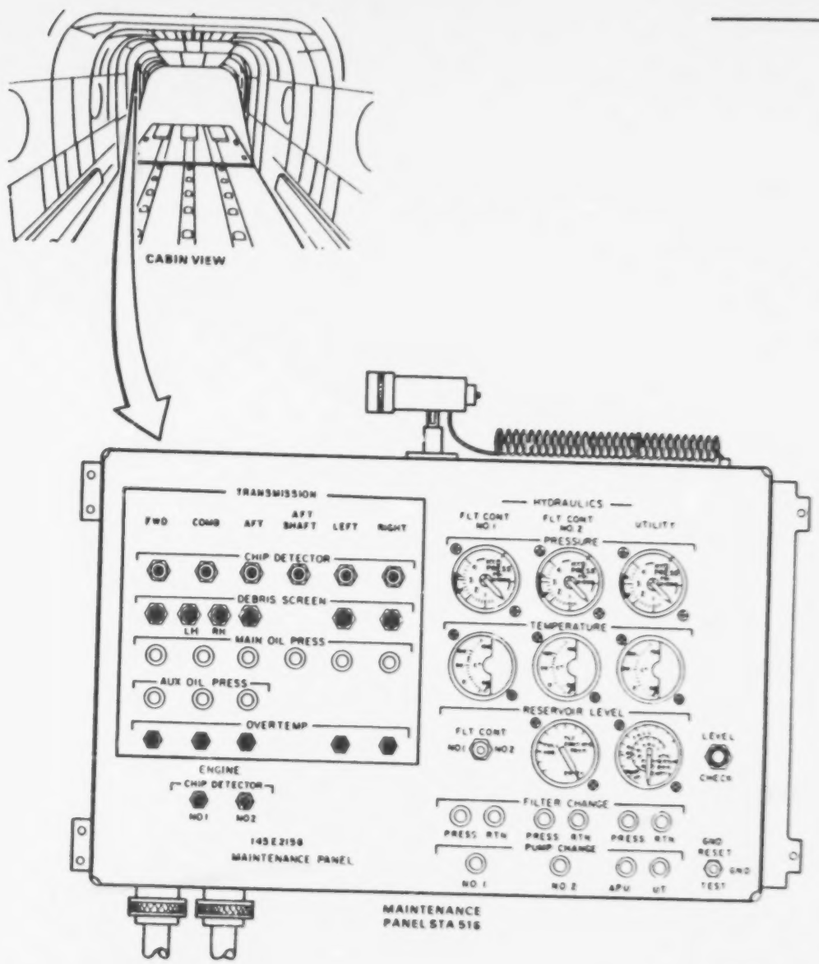
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off


DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL CHECK FOR 28VDC BETWEEN PLUG 300P28 PIN 1 (+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W3510-063-22 BETWEEN RECEPTACLE 146J2 AND 146TB4. REPAIR OR REPLACE WIRE AS REQUIRED
NO
OPEN NO. 2 PDP AND CHECK FOR 28VDC BETWEEN CIRCUIT SIDE OF MAINT PNL LTS CB143CB1 (+) AND GROUND IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W552-41-22, W639-172-22, W873-48-22, OR W666-48-22 BETWEEN MAINT PNL LTS CB143CB1 AND PLUG 300P28. REPAIR OR REPLACE WIRES AS REQUIRED
NO
REPLACE MAINT PNL LTS CIRCUIT BREAKER



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END OF TASK

8-14.10 HYDRAULICS MAINT PNL LTS CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 25

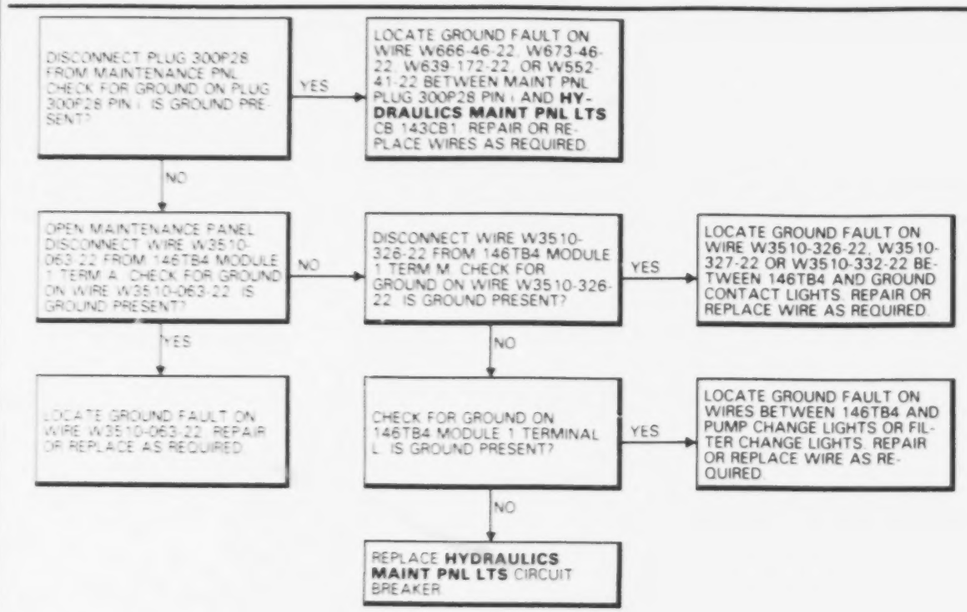
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

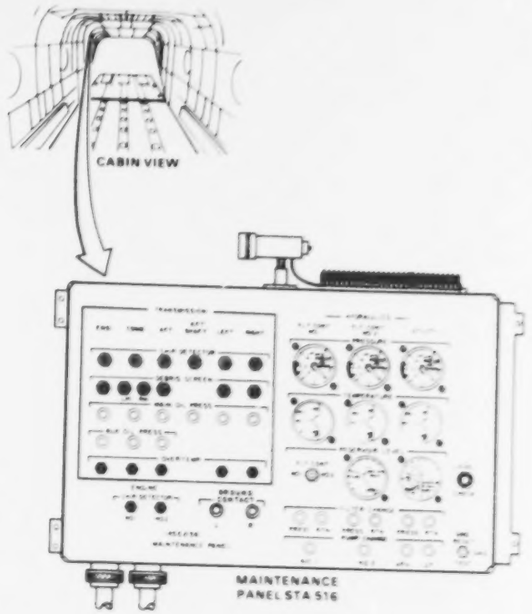
Materials:
None

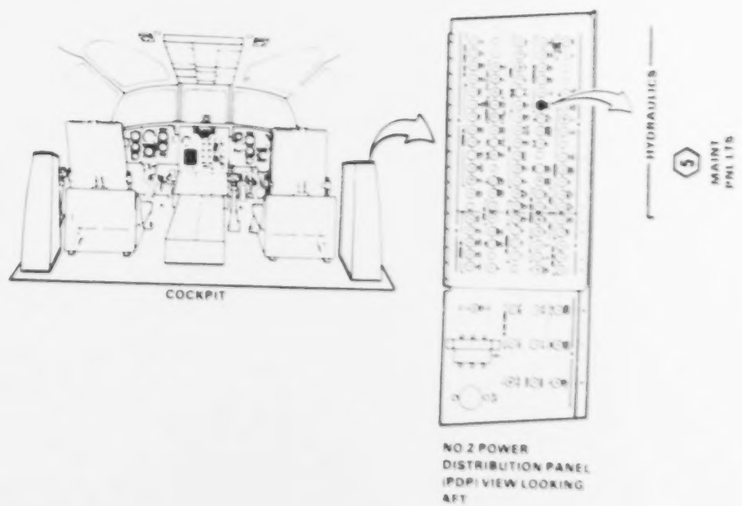
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off


DISCONNECT PLUG 300P28 FROM MAINTENANCE PNL. CHECK FOR GROUND ON PLUG 300P28 PIN I. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W666-46-22, W673-46-22, W639-172-22, OR W552-41-22 BETWEEN MAINT PNL PLUG 300P28 PIN I AND **HYDRAULICS MAINT PNL LTS** CB 143CB1. REPAIR OR REPLACE WIRES AS REQUIRED.
NO
OPEN MAINTENANCE PANEL. DISCONNECT WIRE W3510-063-22 FROM 146TB4 MODULE 1 TERM A. CHECK FOR GROUND ON WIRE W3510-063-22. IS GROUND PRESENT?
NO
DISCONNECT WIRE W3510-326-22 FROM 146TB4 MODULE 1 TERM M. CHECK FOR GROUND ON WIRE W3510-326-22. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W3510-326-22, W3510-327-22 OR W3510-332-22 BETWEEN 146TB4 AND GROUND CONTACT LIGHTS. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W3510-063-22. REPAIR OR REPLACE AS REQUIRED.
NO
CHECK FOR GROUND ON 146TB4 MODULE 1 TERMINAL L. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRES BETWEEN 146TB4 AND PUMP CHANGE LIGHTS OR FILTER CHANGE LIGHTS. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE **HYDRAULICS MAINT PNL LTS** CIRCUIT BREAKER





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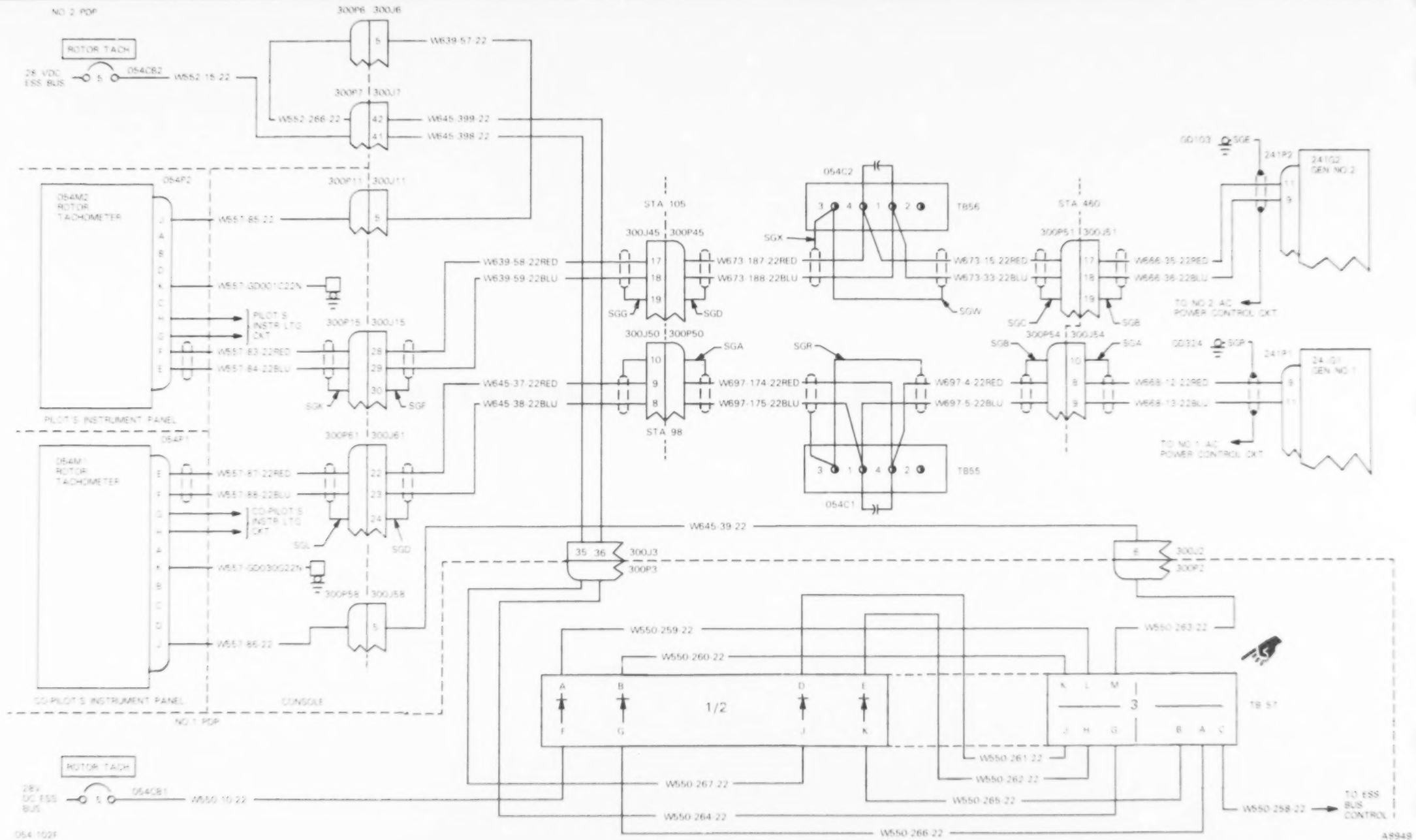
END OF TASK

8-15 ROTOR TACHOMETER


NO 2 POP
ROTOR TACH
28 VDC ESS BUS
5
054CB2
W552 15 22
300P6 300J6
5
W639 57 22
300P7 300J7
W552 266 22
42
41
W645 399 22
W645 398 22
054P2
300P11 300J11
054M2 ROTOR TACHOMETER
W557 85 22
W557 GD001G22N
PILOT S INSTR LTG CKT
W557 83 22RED
W557 84 22BLU
PILOT S INSTRUMENT PANEL
300P15 300J15
28
29
30
SGK
SGF
W639 58 22RED
W639 59 22BLU
W645 37 22RED
W645 38 22BLU
054P1
300P61 300J61
054M1 ROTOR TACHOMETER
W557 87 22RED
W557 88 22BLU
CO-PILOT S INSTR LTG CKT
W557 GD030G22N
W557 86 22
300P58 300J58
5
SGL
SGD
CO-PILOT S INSTRUMENT PANEL
CONSOLE
NO 1 POP
STA 105
300J45 300P45
17
18
19
SGG
SGD
W673 187 22RED
W673 188 22BLU
300J50 300P50
SGA
10
9
8
W697 174 22RED
W697 175 22BLU
STA 98
054C2
3 4 1 2
TB56
SGX
SGW
W673 15 22RED
W673 33 22BLU
SGR
W697 4 22RED
W697 5 22BLU
3 1 4 2
TB55
054C1
STA 460
300P51 300J51
SGC
SGB
300P54 300J54
SGB
SGA
GD103
SGE
241P2
241G2 GEN NO 2
W666 35 22RED
W666 36 22BLU
TO NO 2 AC POWER CONTROL CKT
GD324
SGP
241P1
241G1 GEN NO 1
W668 12 22RED
W668 13 22BLU
TO NO 1 AC POWER CONTROL CKT
W645 39 22
35 36
300J3
300P3
300J2
300P2
W550 259 22
W550 260 22
W550 263 22
A B F G
1/2
D E J K
K L M
3
J H G
B A C
TB 57
W550 261 22
W550 262 22
W550 267 22
W550 265 22
W550 264 22
W550 266 22
W550 258 22
TO ESS BUS CONTROL
ROTOR TACH
28V DC ESS BUS
5
054CB1
W550 10 22
054 102F
90X48
A8949

8-15.2 ROTOR TACHOMETER VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915

Materials:
None

Personnel Required:
68F10 Aircraft Electrician

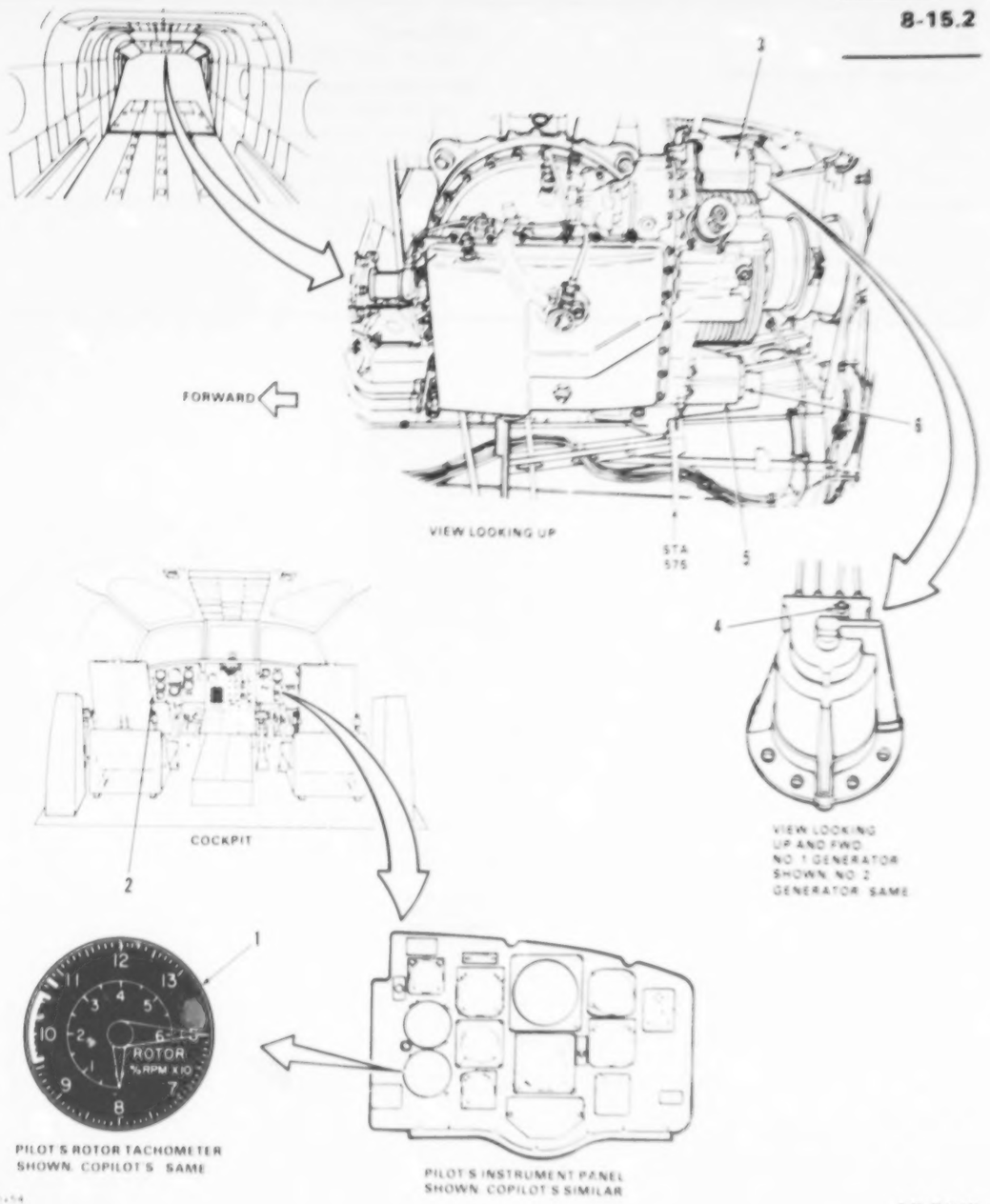
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Left and Right Baffles
Open Under Aft Transmission

	TASK	RESULT
1	**Check pilot's rotor tachometer indicator (1).**	If tachometer (1) is loose or damaged, tighten or replace it as required.
2	**Check copilot's rotor tachometer indicator (2).**	If tachometer (2) is loose or damaged, tighten or replace it as required.
3	**Check No. 1 generator (3).**	If plug (4) is loose or damaged or wiring to plug is damaged, tighten or repair it as required.
4	**Check No. 2 generator (5).**	If plug (6) is loose or damaged or wiring to plug is damaged, tighten or repair it as required.

FOLLOW-ON MAINTENANCE

Left and right baffles closed under aft transmission


FORWARD
VIEW LOOKING UP
STA 575
COCKPIT
VIEW LOOKING UP AND FWD NO. 1 GENERATOR SHOWN, NO. 2 GENERATOR SAME
ROTOR %RPM X10
PILOT'S ROTOR TACHOMETER SHOWN, COPILOT'S SAME
PILOT'S INSTRUMENT PANEL SHOWN, COPILOT'S SIMILAR

END OF TASK

8-15.3 ROTOR TACHOMETER OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

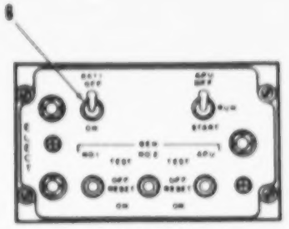
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

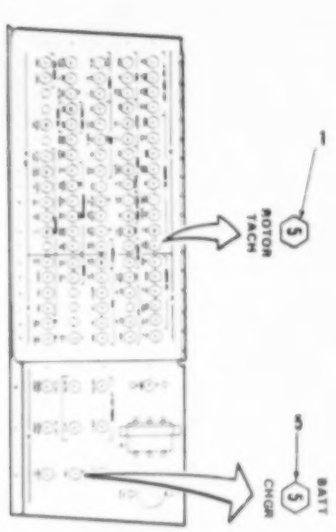
Materials:
None

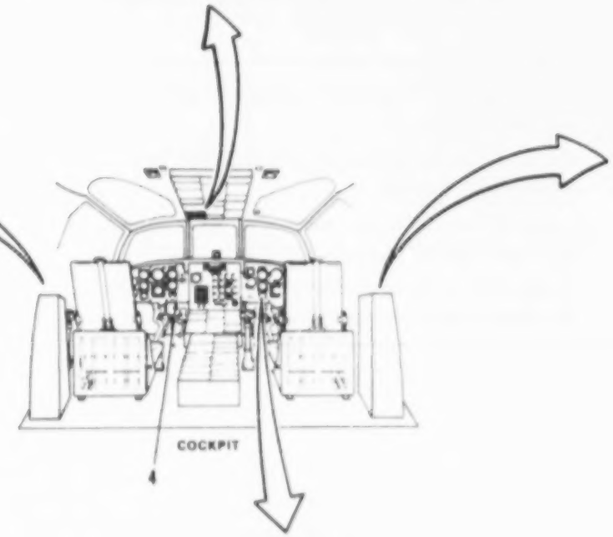
Personnel Required:
Aircraft Electrician
Army Rotor Wing Aviator (2)

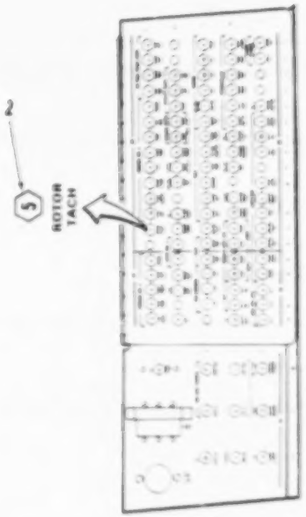
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power On
Visual Check of Rotor Tachometer Performed
(Task 8-15.2)









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8-15.3 ROTOR TACHOMETER OPERATIONAL CHECK (Continued)

TASK	RESULT
1. **Check** that **ROTOR TACH circuit breaker (1)** is **closed.**	If circuit breaker (1) is open, close it. If it opens again, go to task 8-15.4.
2. **Check** that **ROTOR TACH circuit breaker (2)** is **closed.**	If circuit breaker (2) is open, close it. If it opens again, go to task 8-14.4.
3. Have pilot start engines and stabilize rotor rpm at 100 percent. Check pilot and copilot rotor tachometers (3 and 4).	Both tachometers shall read 98 to 101 percent. If copilot's tachometer does not read 98 percent to 101 percent, go to task 8-15.5. If pilot's tachometer does not read 98 to 101 percent, go to task 8-15.6. If copilot's tachometer varies or oscillates, replace capacitor 054C1. If pilot's tachometer varies or oscillates, replace capacitor 054C2.
4. **Open BATT CHGR circuit breaker (5).**	
5. Have pilot set **BATT switch (6) to OFF. Check pilot and copilot rotor tachometers (3 and 4).**	Both tachometers shall read 98 to 101 percent. If either tachometer pointer drifts downscale, go to task 8-15.7.
6. Have pilot set **BATT switch (6) to ON.**	
7. **Close BATT CHGR circuit breaker (5).**	
8. **Open ROTOR TACH circuit breaker (1). Check copilot's rotor tachometer (4).**	**Tachometer (4) shall read 98 to 101 percent.** If pointer on tachometer (4) drifts downscale, go to task 8-15.8.
9. **Close ROTOR TACH circuit breaker (1).**	
10. **Open ROTOR TACH circuit breaker (2). Check pilot's rotor tachometer (3).**	**Tachometer (3) shall read 98 to 101 percent.** If pointer on tachometer (3) drifts downscale, go to task 8-15.9.
11. **Close ROTOR TACH circuit breaker (2).**	

FOLLOW-ON MAINTENANCE:
Have Pilot Shut Down Engines
TM 55-1520-240-23:
Hydraulics Off
Electrical Power Off
Battery Disconnected

END OF TASK

8-15.4 ROTOR TACH CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

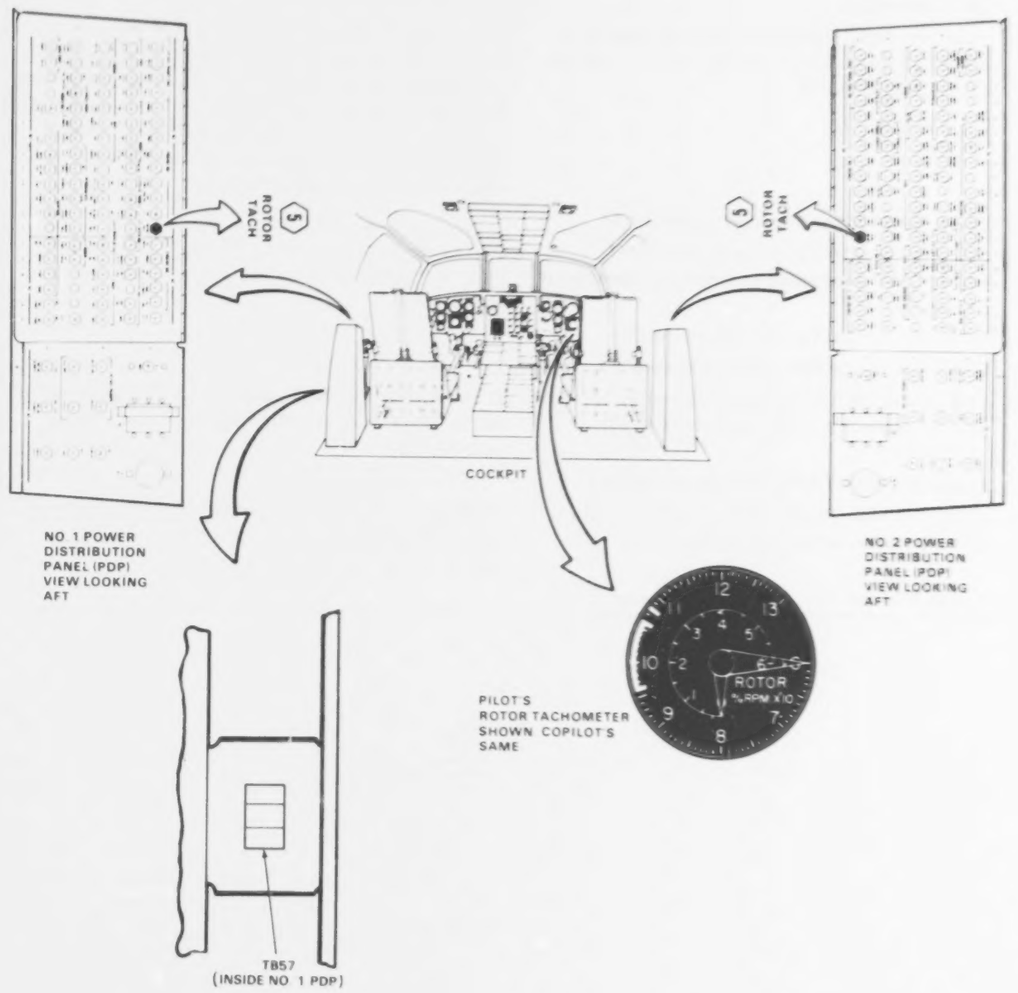
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



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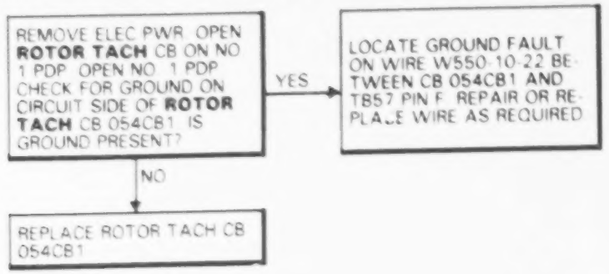
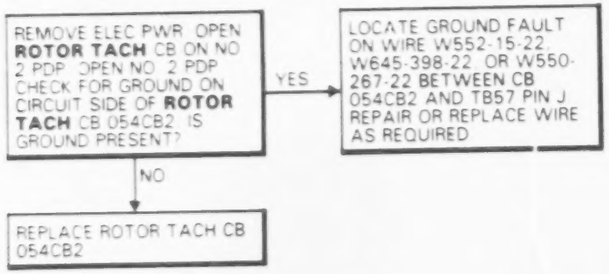
8-15.4 ROTOR TACH CIRCUIT BREAKER WILL NOT STAY CLOSED (Continued)

COPILOT TACH CIRCUIT BREAKER WILL NOT STAY CLOSED


REMOVE ELEC PWR. OPEN **ROTOR TACH** CB ON NO 1 PDP. OPEN NO. 1 PDP. CHECK FOR GROUND ON CIRCUIT SIDE OF **ROTOR TACH** CB 054CB1. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W550-10-22 BETWEEN CB 054CB1 AND TB57 PIN F. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE ROTOR TACH CB 054CB1

PILOT TACH CIRCUIT BREAKER WILL NOT STAY CLOSED


REMOVE ELEC PWR. OPEN **ROTOR TACH** CB ON NO 2 PDP. OPEN NO. 2 PDP. CHECK FOR GROUND ON CIRCUIT SIDE OF **ROTOR TACH** CB 054CB2. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W552-15-22, W645-398-22 OR W550-267-22 BETWEEN CB 054CB2 AND TB57 PIN J. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE ROTOR TACH CB 054CB2

END OF TASK

8-15.5 COPILOT'S ROTOR TACHOMETER DOES NOT READ 98 TO 101 PERCENT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

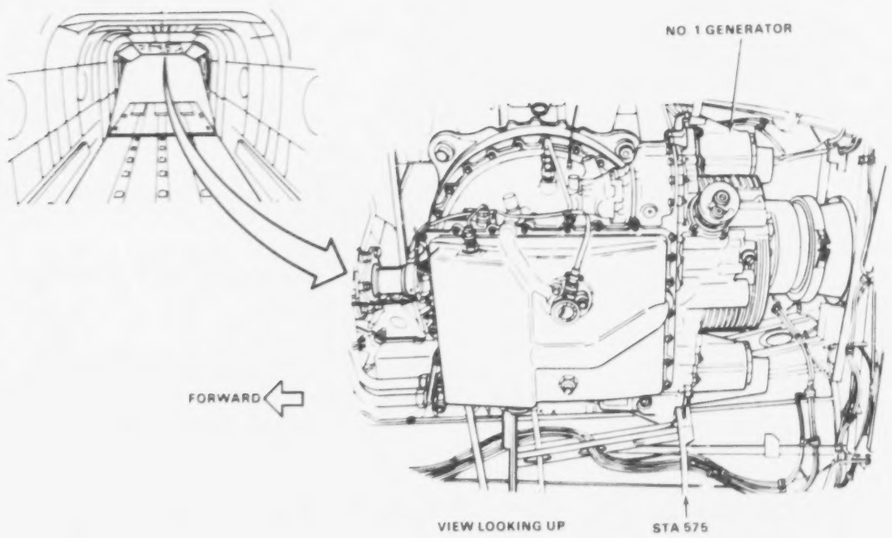
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

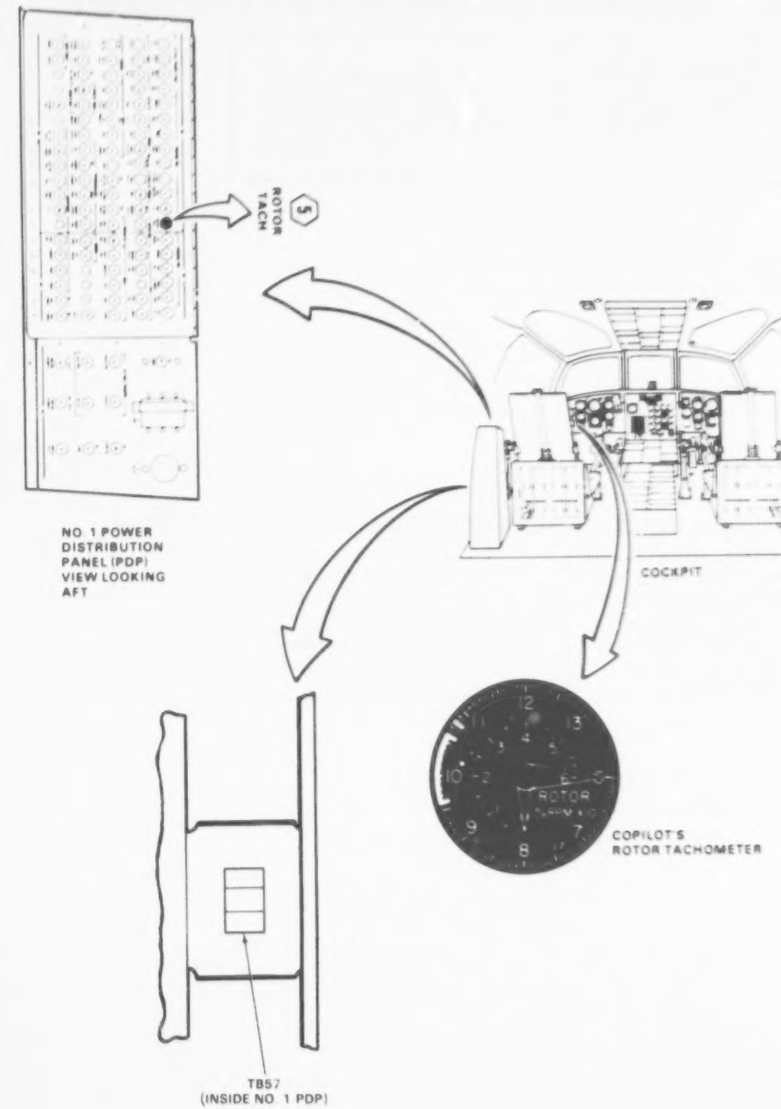
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off





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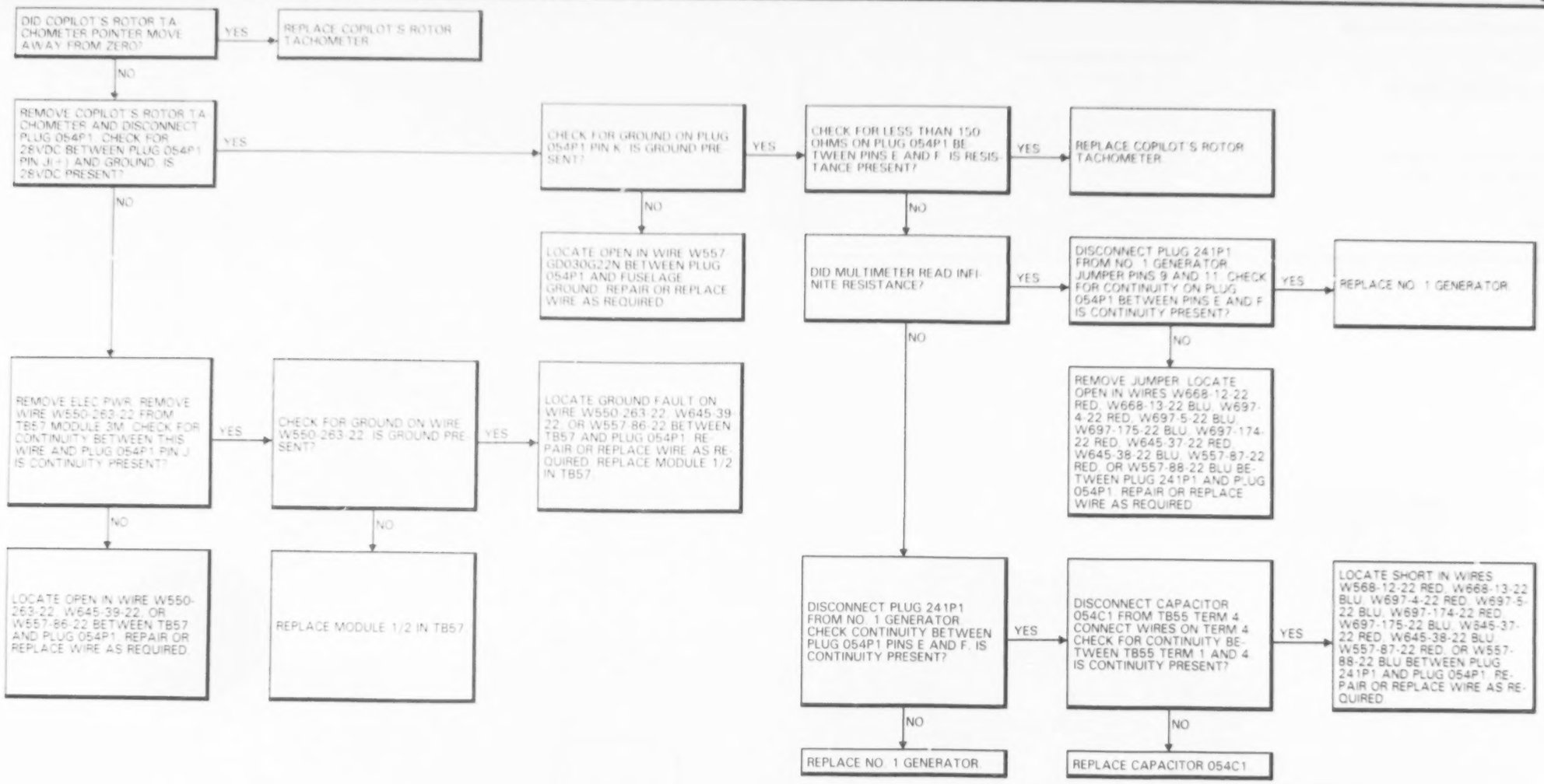
8-15.5 COPILOT'S ROTOR TACHOMETER DOES NOT READ 98 TO 101 PERCENT (Continued)


DID COPILOT'S ROTOR TACHOMETER POINTER MOVE AWAY FROM ZERO?
YES
REPLACE COPILOT'S ROTOR TACHOMETER
NO
REMOVE COPILOT'S ROTOR TACHOMETER AND DISCONNECT PLUG 054P1. CHECK FOR 28VDC BETWEEN PLUG 054P1 PIN J(+) AND GROUND. IS 28VDC PRESENT?
YES
CHECK FOR GROUND ON PLUG 054P1 PIN K. IS GROUND PRESENT?
YES
CHECK FOR LESS THAN 150 OHMS ON PLUG 054P1 BETWEEN PINS E AND F. IS RESISTANCE PRESENT?
YES
REPLACE COPILOT'S ROTOR TACHOMETER
NO
LOCATE OPEN IN WIRE W557-GD030G22N BETWEEN PLUG 054P1 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
DID MULTIMETER READ INFINITE RESISTANCE?
YES
DISCONNECT PLUG 241P1 FROM NO. 1 GENERATOR. JUMPER PINS 9 AND 11. CHECK FOR CONTINUITY ON PLUG 054P1 BETWEEN PINS E AND F. IS CONTINUITY PRESENT?
YES
REPLACE NO. 1 GENERATOR
NO
REMOVE JUMPER. LOCATE OPEN IN WIRES W668-12-22 RED, W668-13-22 BLU, W697-4-22 RED, W697-5-22 BLU, W697-175-22 BLU, W697-174-22 RED, W645-37-22 RED, W645-38-22 BLU, W557-87-22 RED, OR W557-88-22 BLU BETWEEN PLUG 241P1 AND PLUG 054P1. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE ELEC PWR. REMOVE WIRE W550-263-22 FROM TB57 MODULE 3M. CHECK FOR CONTINUITY BETWEEN THIS WIRE AND PLUG 054P1 PIN J. IS CONTINUITY PRESENT?
YES
CHECK FOR GROUND ON WIRE W550-263-22. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W550-263-22, W645-39-22, OR W557-86-22 BETWEEN TB57 AND PLUG 054P1. REPAIR OR REPLACE WIRE AS REQUIRED. REPLACE MODULE 1/2 IN TB57.
NO
LOCATE OPEN IN WIRE W550-263-22, W645-39-22, OR W557-86-22 BETWEEN TB57 AND PLUG 054P1. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE MODULE 1/2 IN TB57.
DISCONNECT PLUG 241P1 FROM NO. 1 GENERATOR. CHECK CONTINUITY BETWEEN PLUG 054P1 PINS E AND F. IS CONTINUITY PRESENT?
YES
DISCONNECT CAPACITOR 054C1 FROM TB55 TERM 4. CONNECT WIRES ON TERM 4. CHECK FOR CONTINUITY BETWEEN TB55 TERM 1 AND 4. IS CONTINUITY PRESENT?
YES
LOCATE SHORT IN WIRES W568-12-22 RED, W668-13-22 BLU, W697-4-22 RED, W697-5-22 BLU, W697-174-22 RED, W697-175-22 BLU, W645-37-22 RED, W645-38-22 BLU, W557-87-22 RED, OR W557-88-22 BLU BETWEEN PLUG 241P1 AND PLUG 054P1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE NO. 1 GENERATOR
NO
REPLACE CAPACITOR 054C1

END OF TASK

8-15.6 PILOT'S ROTOR TACHOMETER DOES NOT READ 98 TO 101 PERCENT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

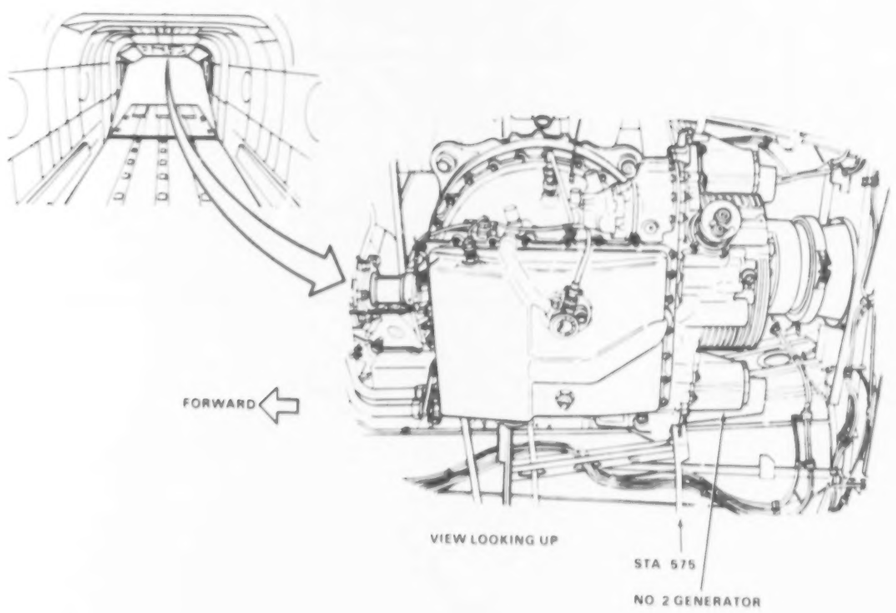
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

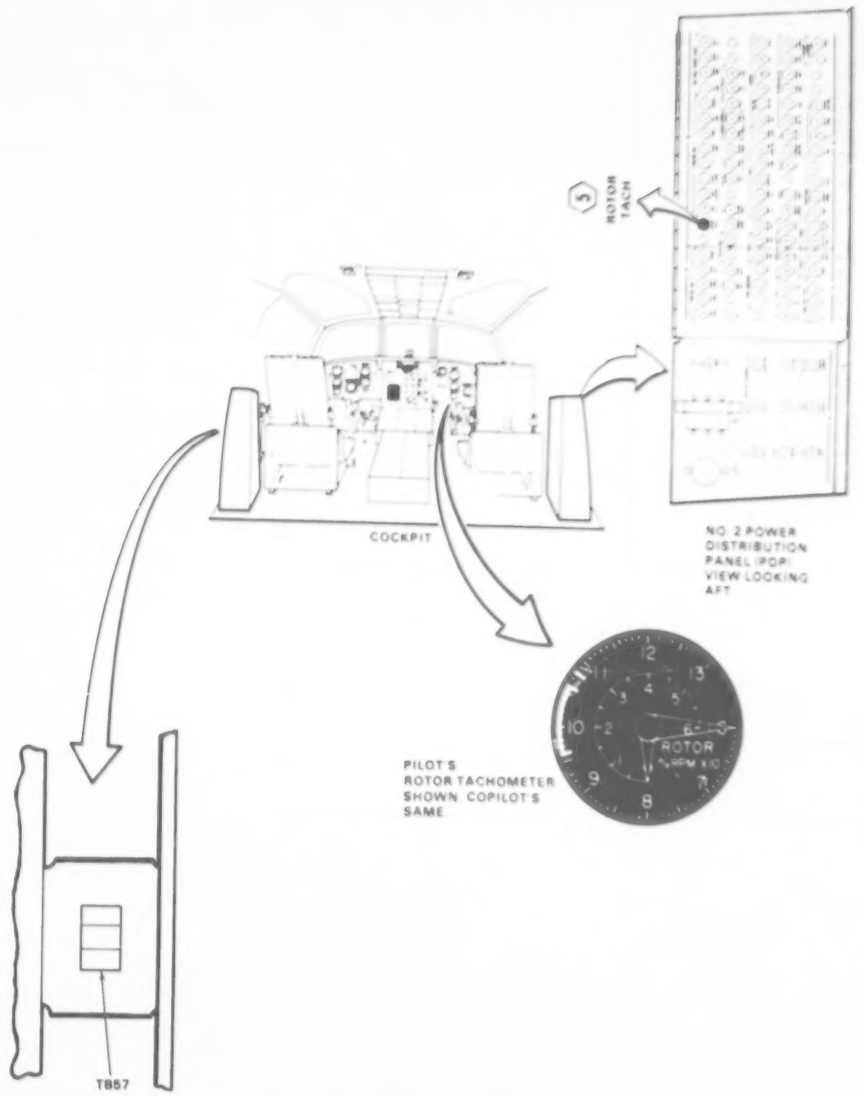
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off





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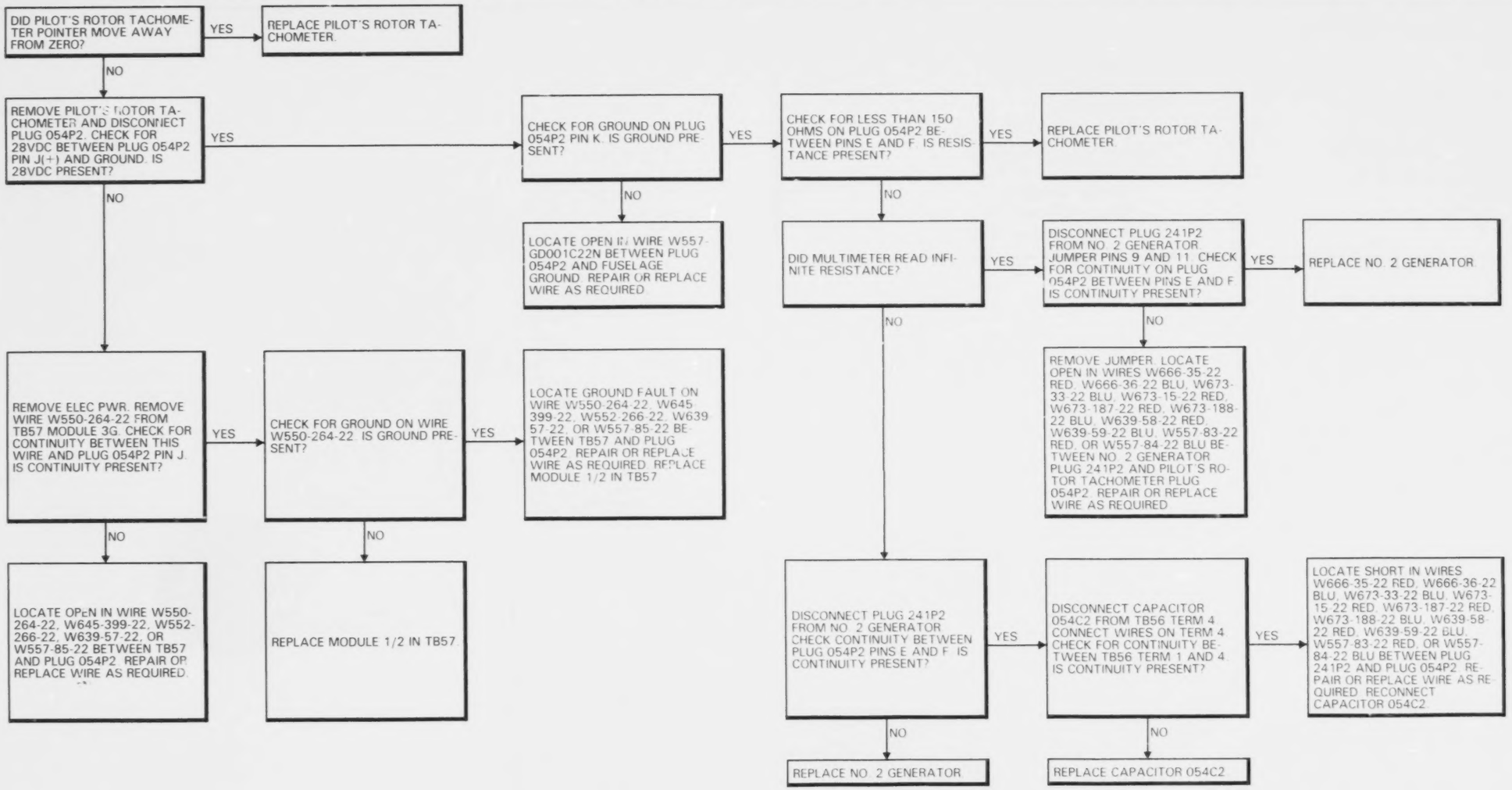
8-15.6 PILOT'S ROTOR TACHOMETER DOES NOT READ 98 TO 101 PERCENT (Continued)


DID PILOT'S ROTOR TACHOMETER POINTER MOVE AWAY FROM ZERO?
YES
REPLACE PILOT'S ROTOR TACHOMETER.
NO
REMOVE PILOT'S ROTOR TACHOMETER AND DISCONNECT PLUG 054P2. CHECK FOR 28VDC BETWEEN PLUG 054P2 PIN J(+) AND GROUND. IS 28VDC PRESENT?
YES
CHECK FOR GROUND ON PLUG 054P2 PIN K. IS GROUND PRESENT?
YES
CHECK FOR LESS THAN 150 OHMS ON PLUG 054P2 BETWEEN PINS E AND F. IS RESISTANCE PRESENT?
YES
REPLACE PILOT'S ROTOR TACHOMETER.
NO
LOCATE OPEN IN WIRE W557-GD001C22N BETWEEN PLUG 054P2 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
DID MULTIMETER READ INFINITE RESISTANCE?
YES
DISCONNECT PLUG 241P2 FROM NO. 2 GENERATOR. JUMPER PINS 9 AND 11. CHECK FOR CONTINUITY ON PLUG 054P2 BETWEEN PINS E AND F. IS CONTINUITY PRESENT?
YES
REPLACE NO. 2 GENERATOR.
NO
REMOVE JUMPER. LOCATE OPEN IN WIRES W666-35-22 RED, W666-36-22 BLU, W673-33-22 BLU, W673-15-22 RED, W673-187-22 RED, W673-188-22 BLU, W639-58-22 RED, W639-59-22 BLU, W557-83-22 RED, OR W557-84-22 BLU BETWEEN NO. 2 GENERATOR PLUG 241P2 AND PILOT'S ROTOR TACHOMETER PLUG 054P2. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELEC PWR. REMOVE WIRE W550-264-22 FROM TB57 MODULE 3G. CHECK FOR CONTINUITY BETWEEN THIS WIRE AND PLUG 054P2 PIN J. IS CONTINUITY PRESENT?
YES
CHECK FOR GROUND ON WIRE W550-264-22. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W550-264-22, W645-399-22, W552-266-22, W639-57-22, OR W557-85-22 BETWEEN TB57 AND PLUG 054P2. REPAIR OR REPLACE WIRE AS REQUIRED. REPLACE MODULE 1/2 IN TB57.
NO
LOCATE OPEN IN WIRE W550-264-22, W645-399-22, W552-266-22, W639-57-22, OR W557-85-22 BETWEEN TB57 AND PLUG 054P2. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE MODULE 1/2 IN TB57.
DISCONNECT PLUG 241P2 FROM NO. 2 GENERATOR. CHECK CONTINUITY BETWEEN PLUG 054P2 PINS E AND F. IS CONTINUITY PRESENT?
YES
DISCONNECT CAPACITOR 054C2 FROM TB56 TERM 4. CONNECT WIRES ON TERM 4. CHECK FOR CONTINUITY BETWEEN TB56 TERM 1 AND 4. IS CONTINUITY PRESENT?
YES
LOCATE SHORT IN WIRES W666-35-22 RED, W666-36-22 BLU, W673-33-22 BLU, W673-15-22 RED, W673-187-22 RED, W673-188-22 BLU, W639-58-22 RED, W639-59-22 BLU, W557-83-22 RED, OR W557-84-22 BLU BETWEEN PLUG 241P2 AND PLUG 054P2. REPAIR OR REPLACE WIRE AS REQUIRED. RECONNECT CAPACITOR 054C2.
NO
REPLACE NO. 2 GENERATOR.
NO
REPLACE CAPACITOR 054C2.

END OF TASK

8-15.7 PILOT'S OR COPILOT'S ROTOR TACHOMETER DOES NOT INDICATE 98 TO 101 PERCENT WHEN BATT SWITCH SET TO OFF

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

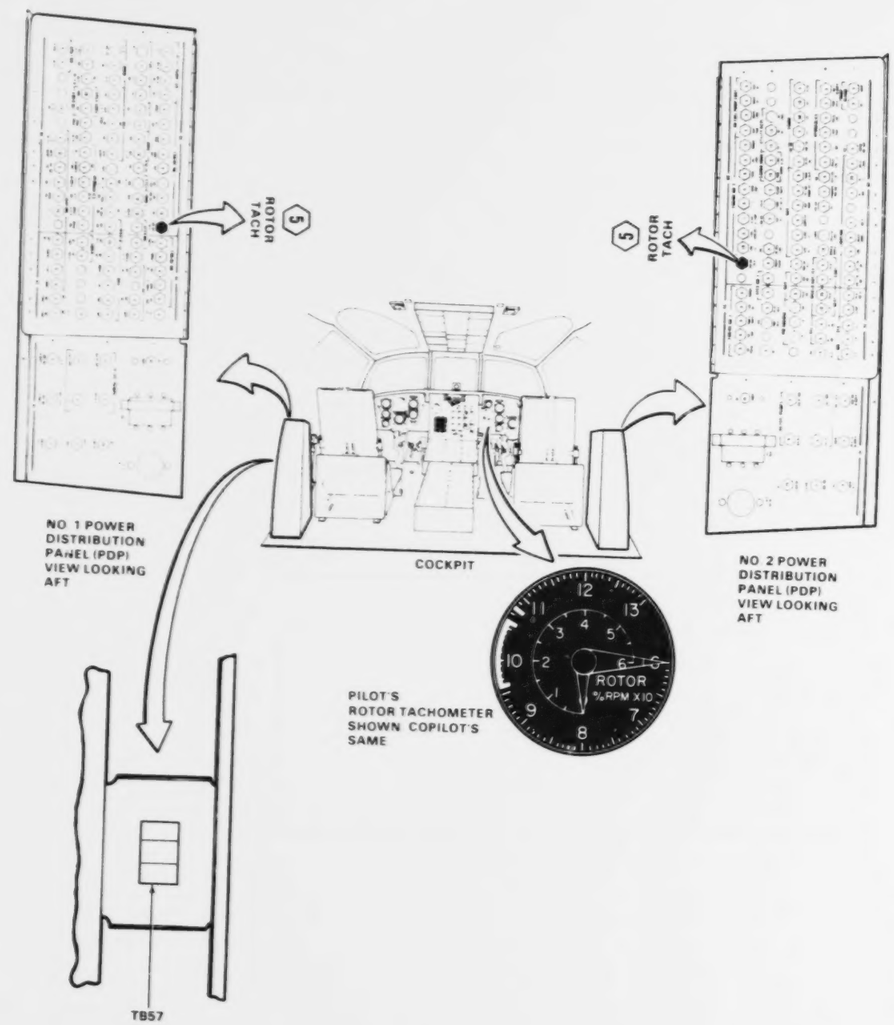
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power On


5 ROTOR TACH
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
COCKPIT
5 ROTOR TACH
NO. 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
ROTOR %RPM X10
PILOT'S ROTOR TACHOMETER SHOWN. COPILOT'S SAME
TB57
8953

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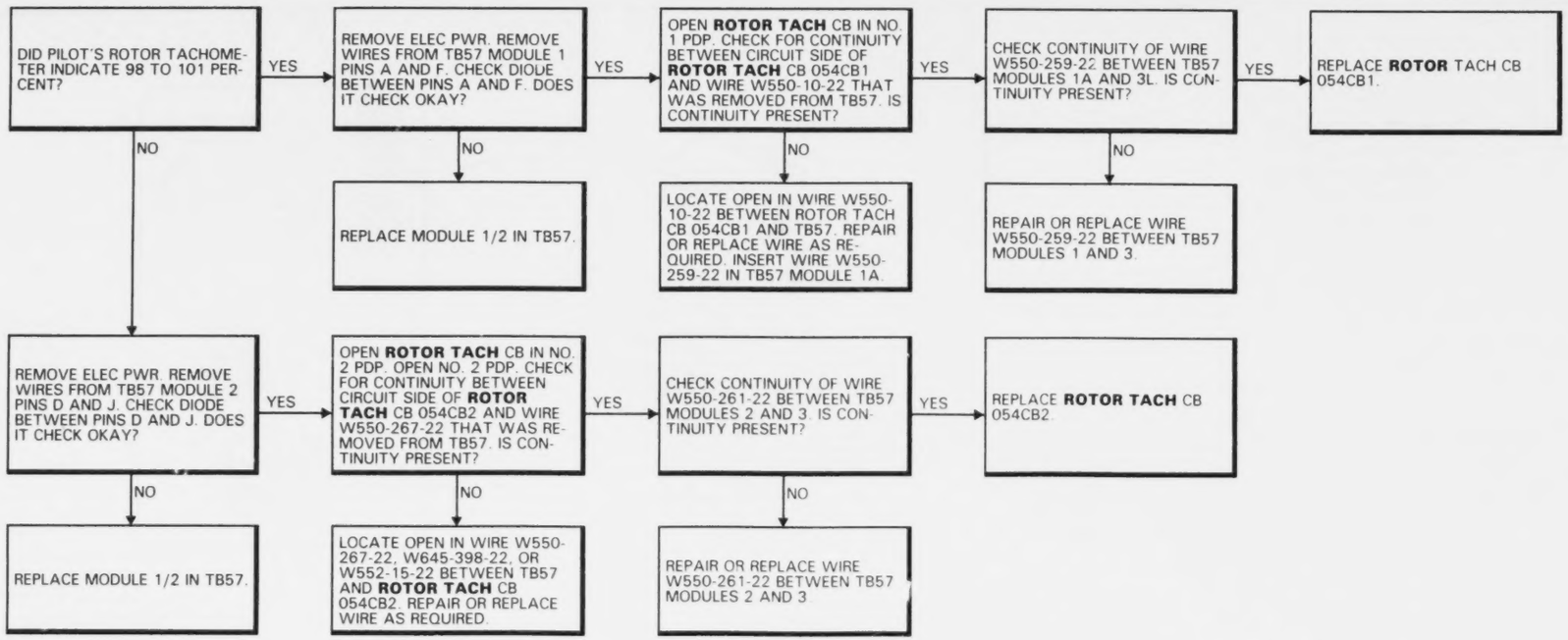
8-15.7 PILOT'S OR COPILOT'S ROTOR TACHOMETER DOES NOT INDICATE 98 TO 101 PERCENT WHEN BATT SWITCH SET TO OFF (Continued)


DID PILOT'S ROTOR TACHOMETER INDICATE 98 TO 101 PERCENT?
YES
REMOVE ELEC PWR. REMOVE WIRES FROM TB57 MODULE 1 PINS A AND F. CHECK DIODE BETWEEN PINS A AND F. DOES IT CHECK OKAY?
YES
OPEN ROTOR TACH CB IN NO. 1 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF ROTOR TACH CB 054CB1 AND WIRE W550-10-22 THAT WAS REMOVED FROM TB57. IS CONTINUITY PRESENT?
YES
CHECK CONTINUITY OF WIRE W550-259-22 BETWEEN TB57 MODULES 1A AND 3L. IS CONTINUITY PRESENT?
YES
REPLACE ROTOR TACH CB 054CB1.
NO
REPLACE MODULE 1/2 IN TB57.
NO
LOCATE OPEN IN WIRE W550-10-22 BETWEEN ROTOR TACH CB 054CB1 AND TB57. REPAIR OR REPLACE WIRE AS REQUIRED. INSERT WIRE W550-259-22 IN TB57 MODULE 1A.
NO
REPAIR OR REPLACE WIRE W550-259-22 BETWEEN TB57 MODULES 1 AND 3.
REMOVE ELEC PWR. REMOVE WIRES FROM TB57 MODULE 2 PINS D AND J. CHECK DIODE BETWEEN PINS D AND J. DOES IT CHECK OKAY?
YES
OPEN ROTOR TACH CB IN NO. 2 PDP. OPEN NO. 2 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF ROTOR TACH CB 054CB2 AND WIRE W550-267-22 THAT WAS REMOVED FROM TB57. IS CONTINUITY PRESENT?
YES
CHECK CONTINUITY OF WIRE W550-261-22 BETWEEN TB57 MODULES 2 AND 3. IS CONTINUITY PRESENT?
YES
REPLACE ROTOR TACH CB 054CB2.
NO
REPLACE MODULE 1/2 IN TB57.
NO
LOCATE OPEN IN WIRE W550-267-22, W645-398-22, OR W552-15-22 BETWEEN TB57 AND ROTOR TACH CB 054CB2. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPAIR OR REPLACE WIRE W550-261-22 BETWEEN TB57 MODULES 2 AND 3.

END OF TASK

8-15.8 COPILOT'S ROTOR TACHOMETER DOES NOT INDICATE 98 TO 101 PERCENT WHEN ROTOR TACH CIRCUIT BREAKER OPENED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

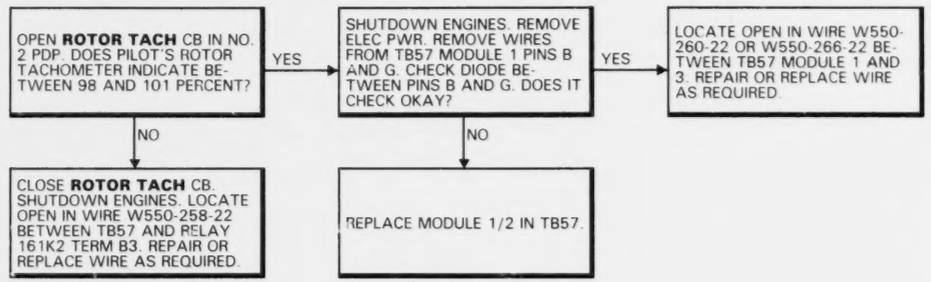
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

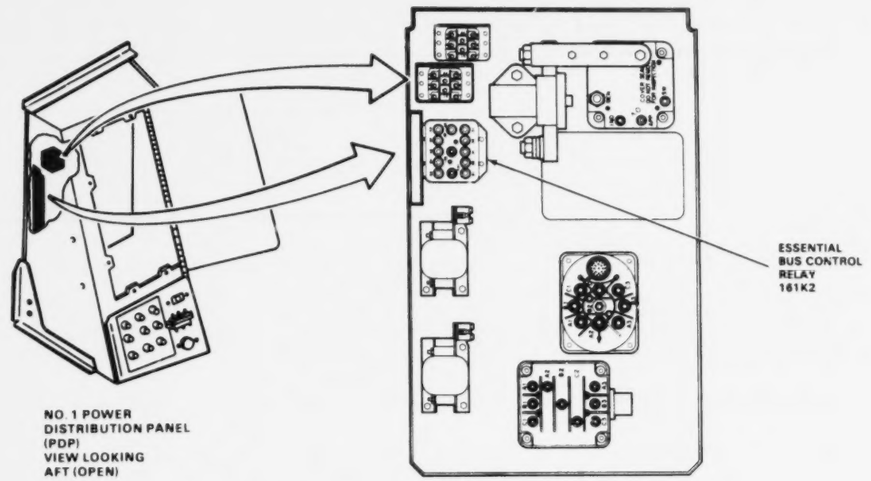
Materials:
None

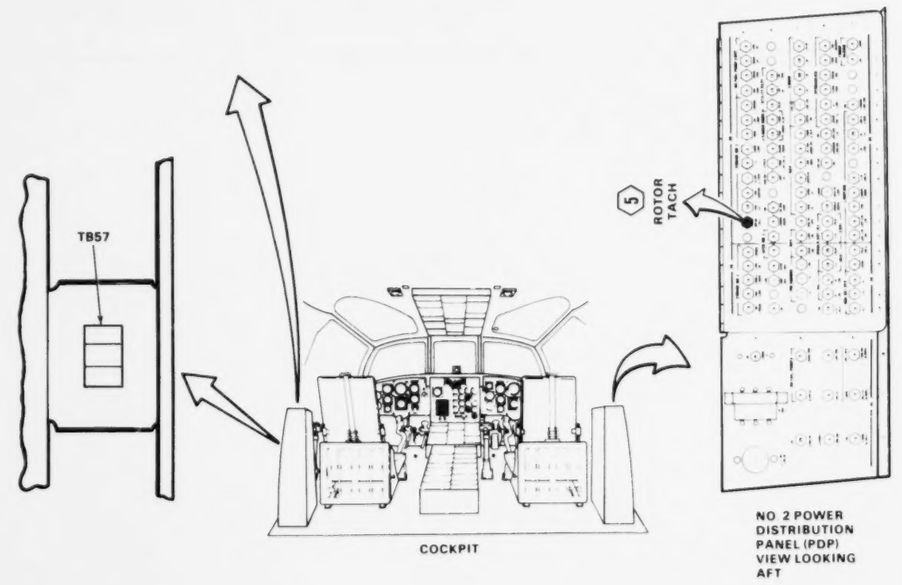
Personnel Required:
Aircraft Electrician
Rotor Wing Aviator (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power On
Rotors Turning


OPEN **ROTOR TACH** CB IN NO. 2 PDP. DOES PILOT'S ROTOR TACHOMETER INDICATE BETWEEN 98 AND 101 PERCENT?
YES
SHUTDOWN ENGINES. REMOVE ELEC PWR. REMOVE WIRES FROM TB57 MODULE 1 PINS B AND G. CHECK DIODE BETWEEN PINS B AND G. DOES IT CHECK OKAY?
YES
LOCATE OPEN IN WIRE W550-260-22 OR W550-266-22 BETWEEN TB57 MODULE 1 AND 3. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CLOSE **ROTOR TACH** CB. SHUTDOWN ENGINES. LOCATE OPEN IN WIRE W550-258-22 BETWEEN TB57 AND RELAY 161K2 TERM B3. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE MODULE 1/2 IN TB57.





END OF TASK

8-15.9 PILOT'S ROTOR TACHOMETER DOES NOT INDICATE 98 TO 101 PERCENT WHEN ROTOR TACH CIRCUIT BREAKER OPENED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

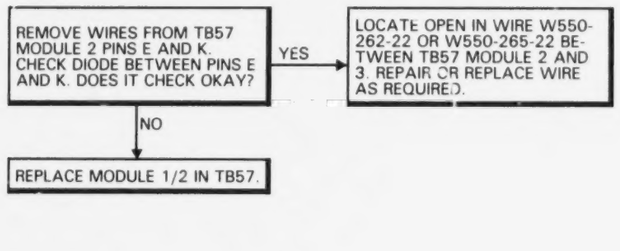
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

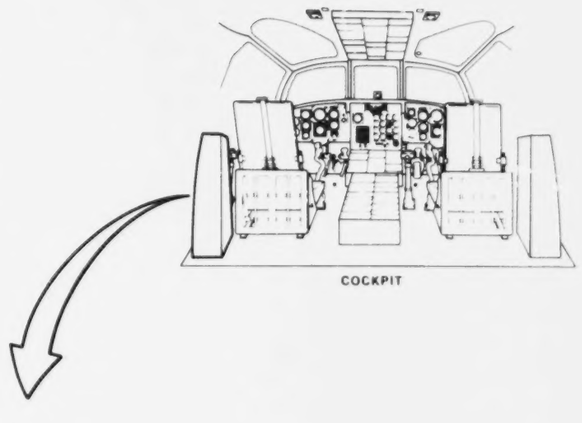
Materials:
None

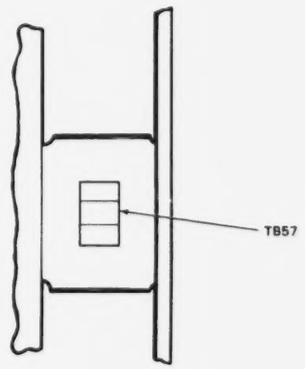
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off


REMOVE WIRES FROM TB57 MODULE 2 PINS E AND K. CHECK DIODE BETWEEN PINS E AND K. DOES IT CHECK OKAY?
YES
LOCATE OPEN IN WIRE W550-262-22 OR W550-265-22 BETWEEN TB57 MODULE 2 AND 3. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE MODULE 1/2 IN TB57.





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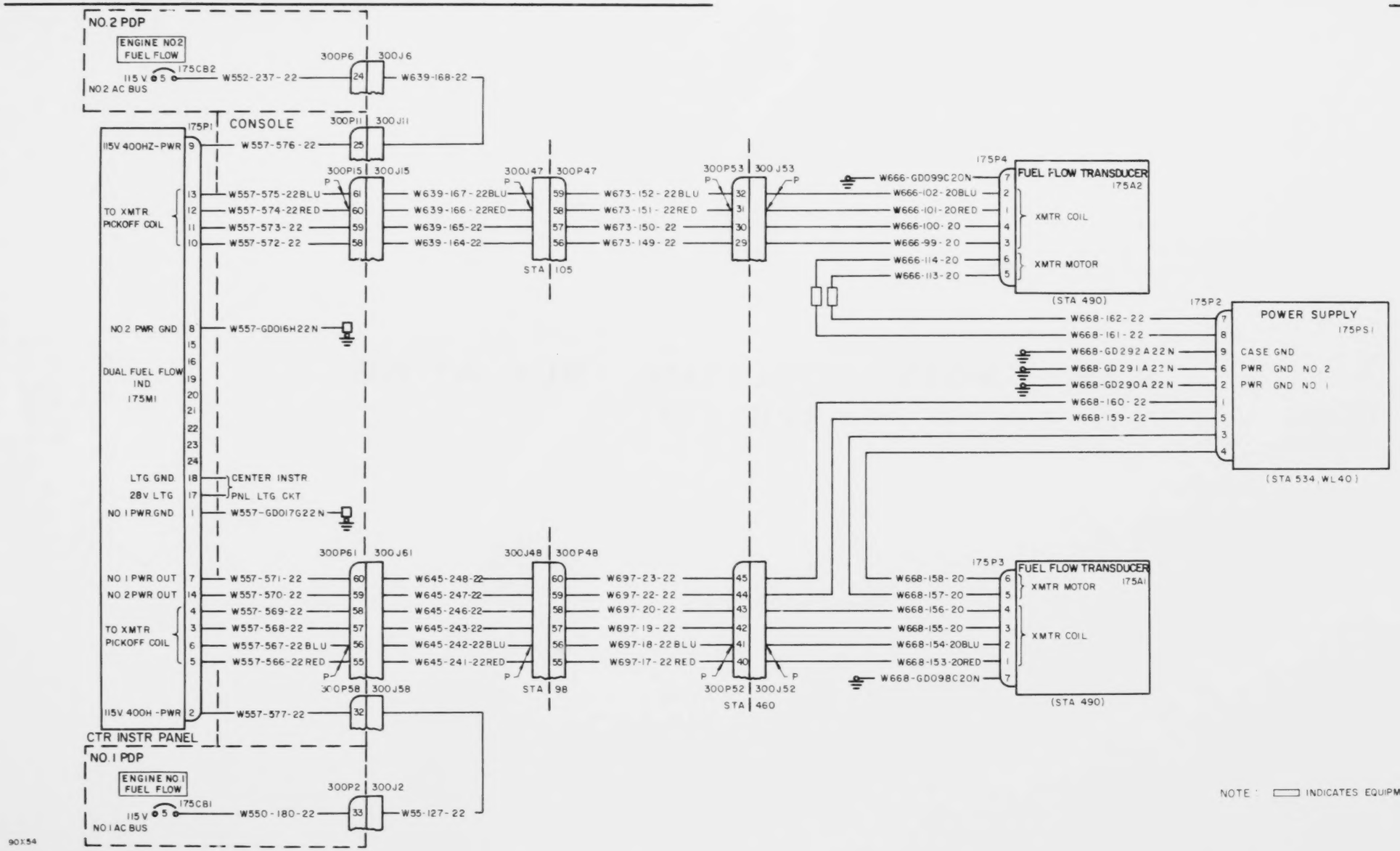
END OF TASK

8-16 ENGINE FUEL FLOW INDICATING SYSTEM

8-16 ENGINE FUEL FLOW INDICATING SYSTEM

8-16.1 ENGINE FUEL FLOW INDICATING SYSTEM WIRING DIAGRAM



NOTE: ▭ INDICATES EQUIPMENT MARKING

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8-16.2 ENGINE FUEL FLOW INDICATING SYSTEM VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical repairer's Tool Kit
NSN 5180-00-323-4915

Materials:
None

Personnel Required:
68F10 Aircraft Electrician

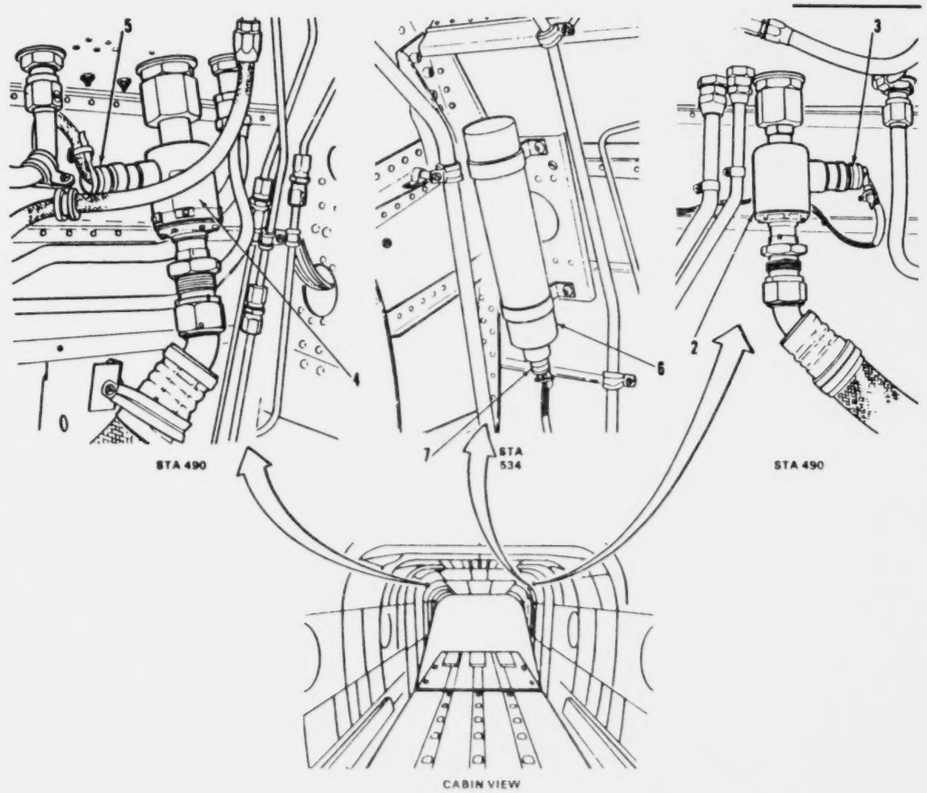
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check dual fuel flow indicator (1).**	If indicator (1) is loose or damaged, tighten or replace it as required.
2. **Check No. 1 engine fuel flow transducer (2) and connector (3).**	If transducer (2) or connector (3) is loose or damaged, tighten or repair them as required.
3. **Check wires to fuel flow transducer (2) and connector (3).**	If wires are frayed or damaged, repair or replace them as required.
4 **Check No. 2 engine fuel flow transducer (4) and connector (5).**	If transducer (4) or connector (5) is loose or damaged, tighten or replace them as required.
5 **Check wires to fuel flow transducer connector (5).**	If wires are frayed or damaged, repair or replace them as required.
6. **Check fuel flow power supply (6).**	If power supply (6) is loose or damaged, tighten or replace it as required. If connector (7) is loose or damaged, tighten or replace it. If wires to connector are damaged, repair or replace them as required.

FOLLOW-ON MAINTENANCE:

None



END OF TASK

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8-16.3 ENGINE FUEL FLOW INDICATING SYSTEM OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
None

Materials:
None

Personnel Required:
100C0 Army Rotary Wing Aviator (2)
68F20 Aircraft Electrician

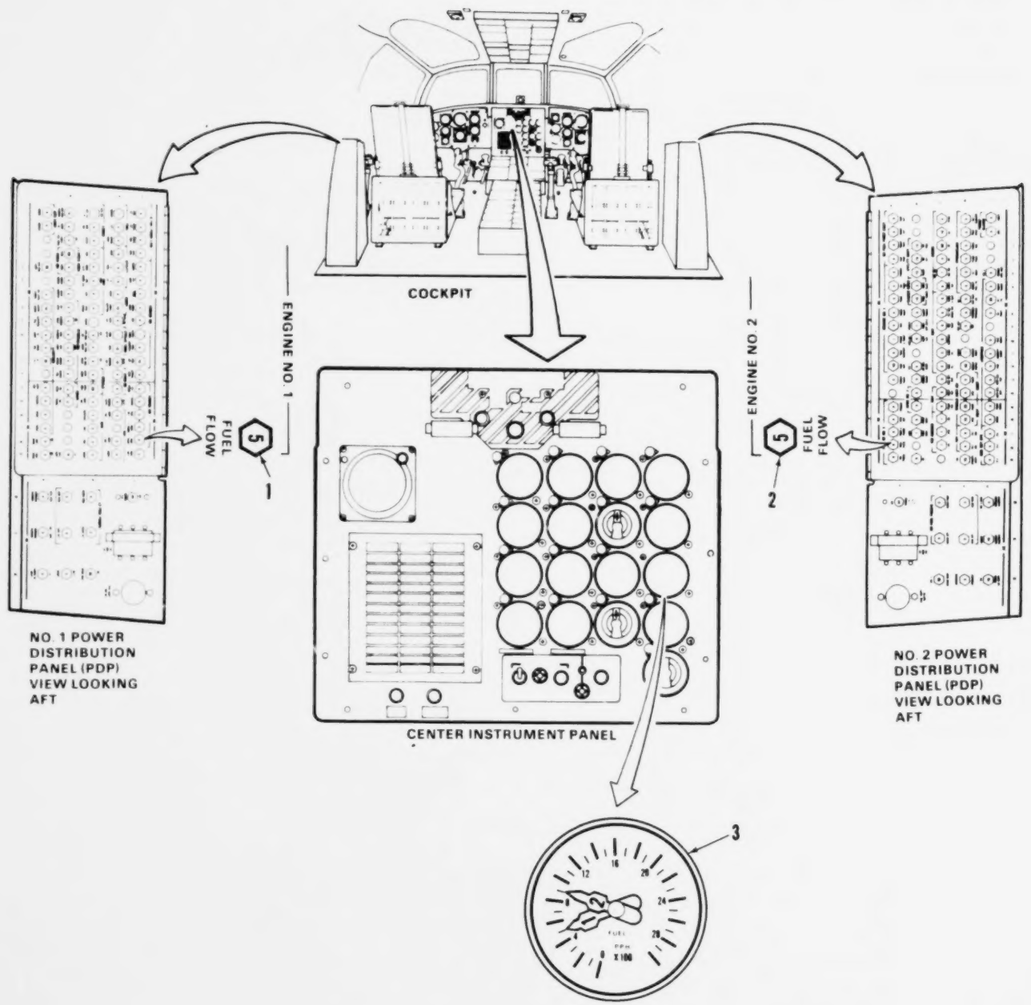
References:
TM 55-1520-240-10
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Engine Fuel Flow Indicating System Visual Check Completed (Task 8-16.2)

TASK	RESULT
1. **Check** that **ENGINE NO. 1 FUEL FLOW circuit breaker (1)** is closed.	If circuit breaker (1) is open, close it. If it opens again, go to task 8-16.4.
2. **Check** that **ENGINE NO. 2 FUEL FLOW circuit breaker (2)** is closed.	If circuit breaker (2) is open, close it. If it opens again, go to task 8-16.5.
3. Have pilot start engines and stabilize rotors at ground idle and minimum beep. Observe fuel flow indicator (3) and compare readings with IDLE FUEL FLOW chart. (Ref. TM 55-1520-240-10.)	Indicator readings shall be approximately the same as indicated by IDLE FUEL FLOW chart. If No. 1 pointer does not indicate any fuel flow, go to task 8-16.6. If No. 1 pointer does not indicate approximate fuel flow, go to task 8-16.7. If No. 2 pointer does not indicate any fuel flow, go to task 8-16.8. If No. 2 pointer does not indicate approximate fuel flow, go to task 8-16.9.

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23:
Shut Down Engines
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



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END OF TASK

8-16.4 ENGINE NO. 1 FUEL FLOW CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

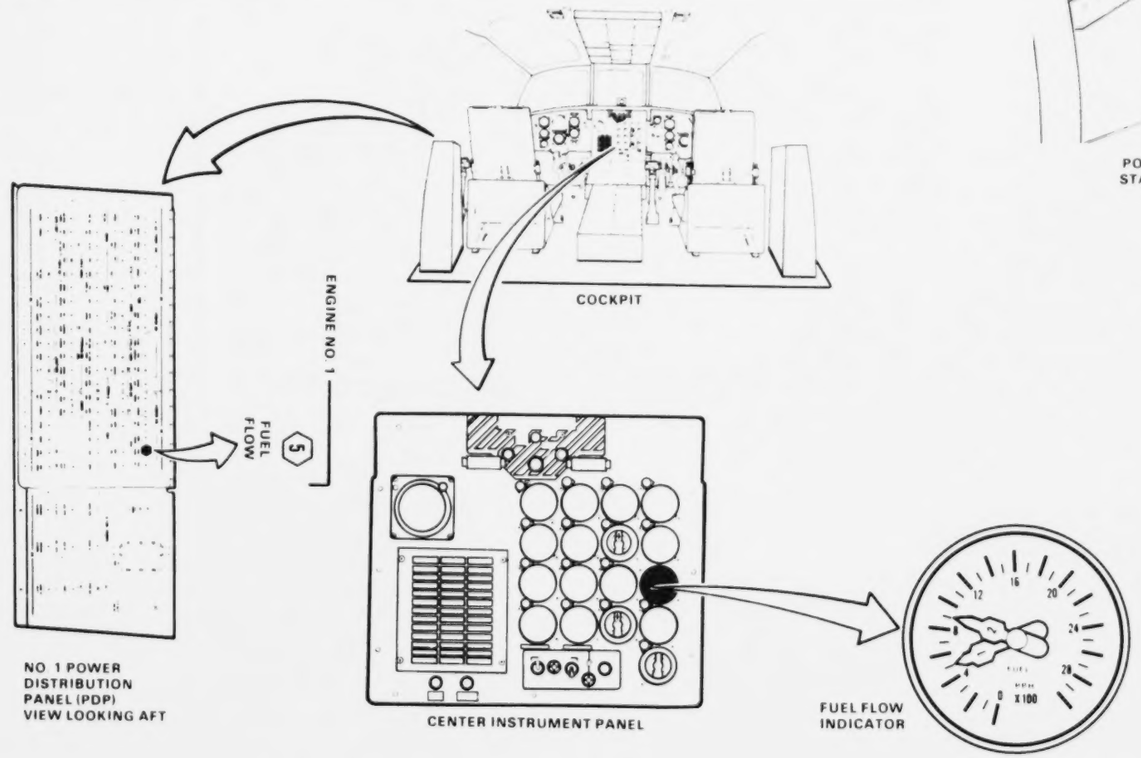
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

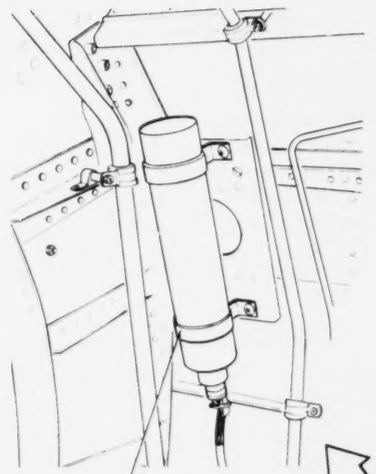
Materials:
None

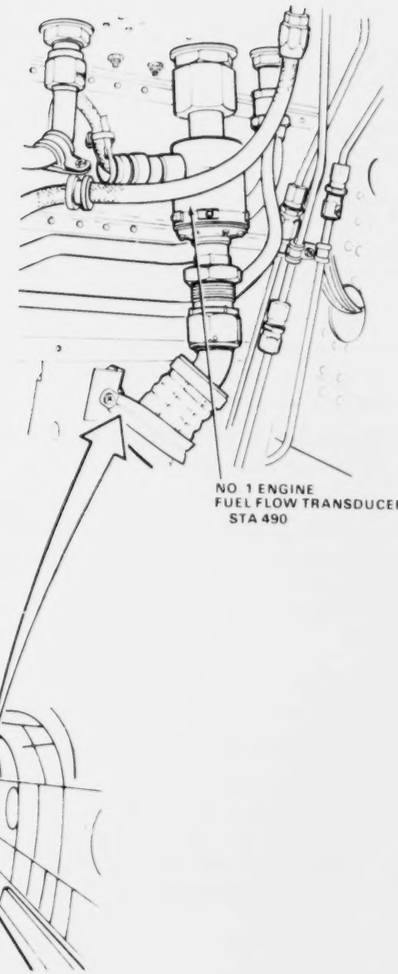
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off







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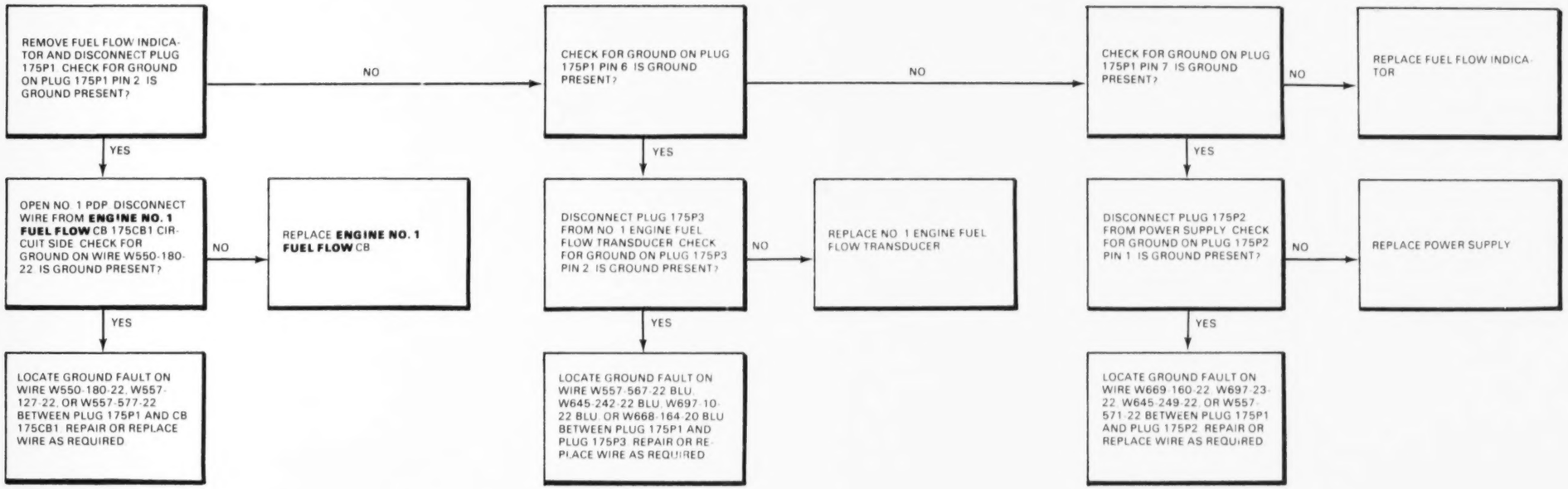
8-16.4 ENGINE NO. 1 FUEL FLOW CIRCUIT BREAKER WILL NOT STAY CLOSED (Continued)


REMOVE FUEL FLOW INDICATOR AND DISCONNECT PLUG 175P1. CHECK FOR GROUND ON PLUG 175P1 PIN 2. IS GROUND PRESENT?
NO
YES
OPEN NO. 1 PDP. DISCONNECT WIRE FROM ENGINE NO. 1 FUEL FLOW CB 175CB1 CIRCUIT SIDE. CHECK FOR GROUND ON WIRE W550-180-22. IS GROUND PRESENT?
NO
REPLACE ENGINE NO. 1 FUEL FLOW CB
YES
LOCATE GROUND FAULT ON WIRE W550-180-22, W557-127-22, OR W557-577-22 BETWEEN PLUG 175P1 AND CB 175CB1. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR GROUND ON PLUG 175P1 PIN 6. IS GROUND PRESENT?
NO
YES
DISCONNECT PLUG 175P3 FROM NO. 1 ENGINE FUEL FLOW TRANSDUCER. CHECK FOR GROUND ON PLUG 175P3 PIN 2. IS GROUND PRESENT?
NO
REPLACE NO. 1 ENGINE FUEL FLOW TRANSDUCER
YES
LOCATE GROUND FAULT ON WIRE W557-567-22 BLU, W645-242-22 BLU, W697-10-22 BLU, OR W668-164-20 BLU BETWEEN PLUG 175P1 AND PLUG 175P3. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR GROUND ON PLUG 175P1 PIN 7. IS GROUND PRESENT?
NO
REPLACE FUEL FLOW INDICATOR
YES
DISCONNECT PLUG 175P2 FROM POWER SUPPLY. CHECK FOR GROUND ON PLUG 175P2 PIN 1. IS GROUND PRESENT?
NO
REPLACE POWER SUPPLY
YES
LOCATE GROUND FAULT ON WIRE W669-160-22, W697-23-22, W645-249-22, OR W557-571-22 BETWEEN PLUG 175P1 AND PLUG 175P2. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-16.5 ENGINE NO. 2 FUEL FLOW CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

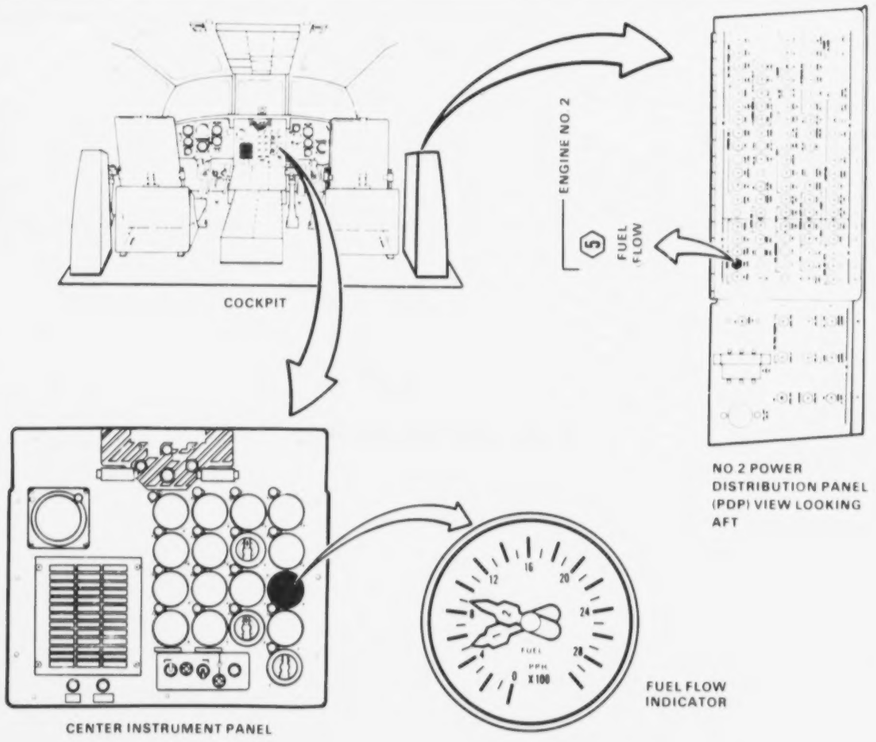
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

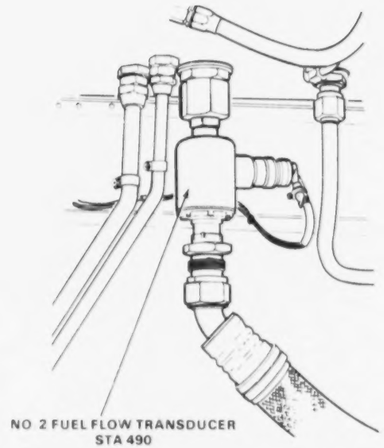
Materials:
None

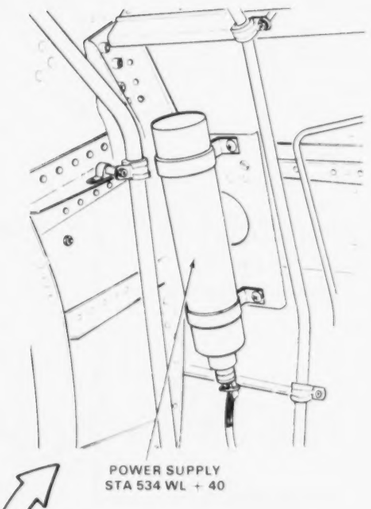
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

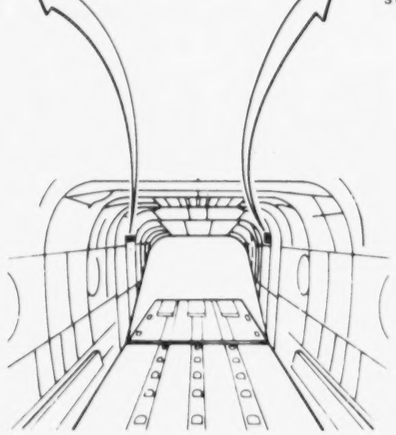
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off









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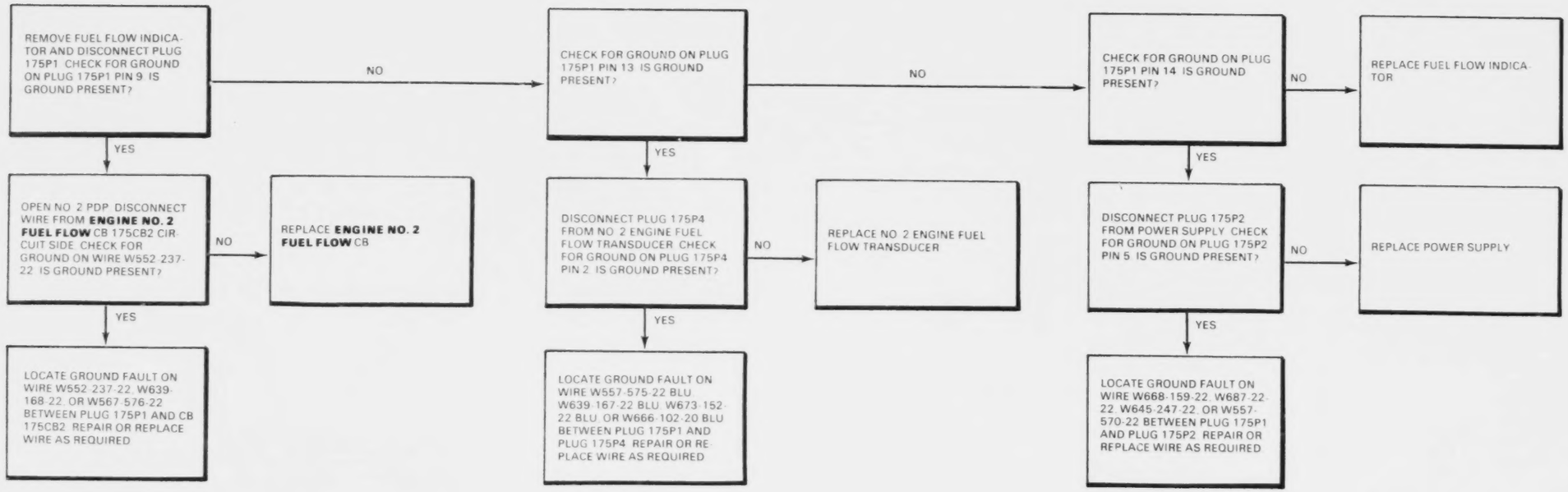
8-16.5 ENGINE NO. 2 FUEL FLOW CIRCUIT BREAKER WILL NOT STAY CLOSED (Continued)


REMOVE FUEL FLOW INDICATOR AND DISCONNECT PLUG 175P1. CHECK FOR GROUND ON PLUG 175P1 PIN 9. IS GROUND PRESENT?
NO
YES
OPEN NO. 2 PDP. DISCONNECT WIRE FROM ENGINE NO. 2 FUEL FLOW CB 175CB2 CIRCUIT SIDE. CHECK FOR GROUND ON WIRE W552-237-22. IS GROUND PRESENT?
NO
REPLACE ENGINE NO. 2 FUEL FLOW CB
YES
LOCATE GROUND FAULT ON WIRE W552-237-22, W639-168-22, OR W567-576-22 BETWEEN PLUG 175P1 AND CB 175CB2. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR GROUND ON PLUG 175P1 PIN 13. IS GROUND PRESENT?
NO
YES
DISCONNECT PLUG 175P4 FROM NO. 2 ENGINE FUEL FLOW TRANSDUCER. CHECK FOR GROUND ON PLUG 175P4 PIN 2. IS GROUND PRESENT?
NO
REPLACE NO. 2 ENGINE FUEL FLOW TRANSDUCER
YES
LOCATE GROUND FAULT ON WIRE W557-575-22 BLU, W639-167-22 BLU, W673-152-22 BLU, OR W666-102-20 BLU BETWEEN PLUG 175P1 AND PLUG 175P4. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR GROUND ON PLUG 175P1 PIN 14. IS GROUND PRESENT?
NO
REPLACE FUEL FLOW INDICATOR
YES
DISCONNECT PLUG 175P2 FROM POWER SUPPLY. CHECK FOR GROUND ON PLUG 175P2 PIN 5. IS GROUND PRESENT?
NO
REPLACE POWER SUPPLY
YES
LOCATE GROUND FAULT ON WIRE W668-159-22, W687-22-22, W645-247-22, OR W557-570-22 BETWEEN PLUG 175P1 AND PLUG 175P2. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

8-16.6 FUEL FLOW INDICATOR NO. 1 POINTER DOES NOT INDICATE FUEL FLOW

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

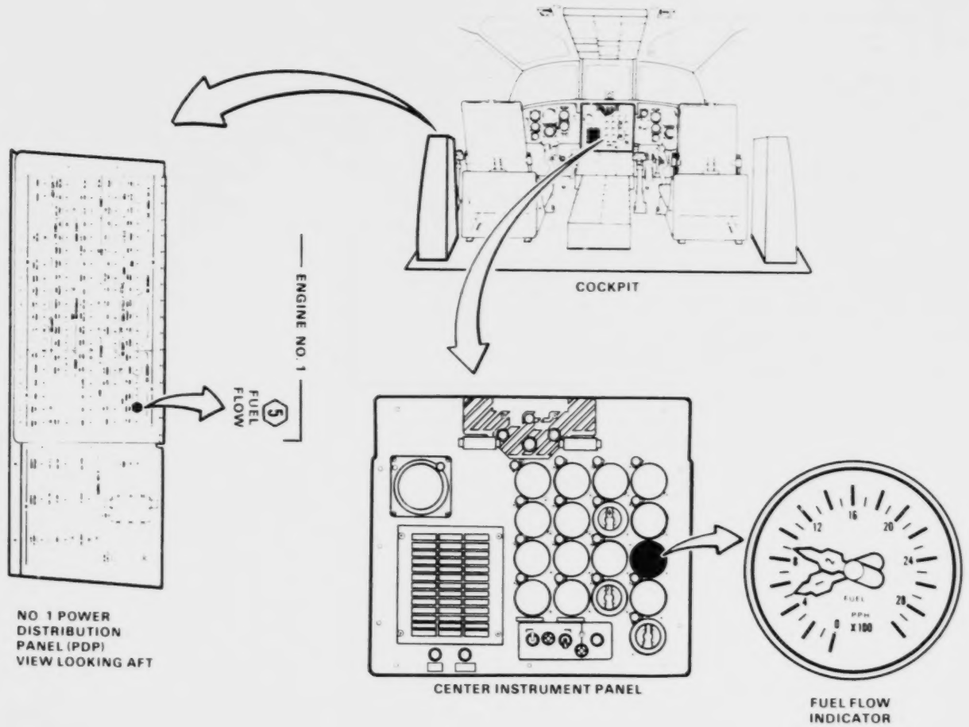
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

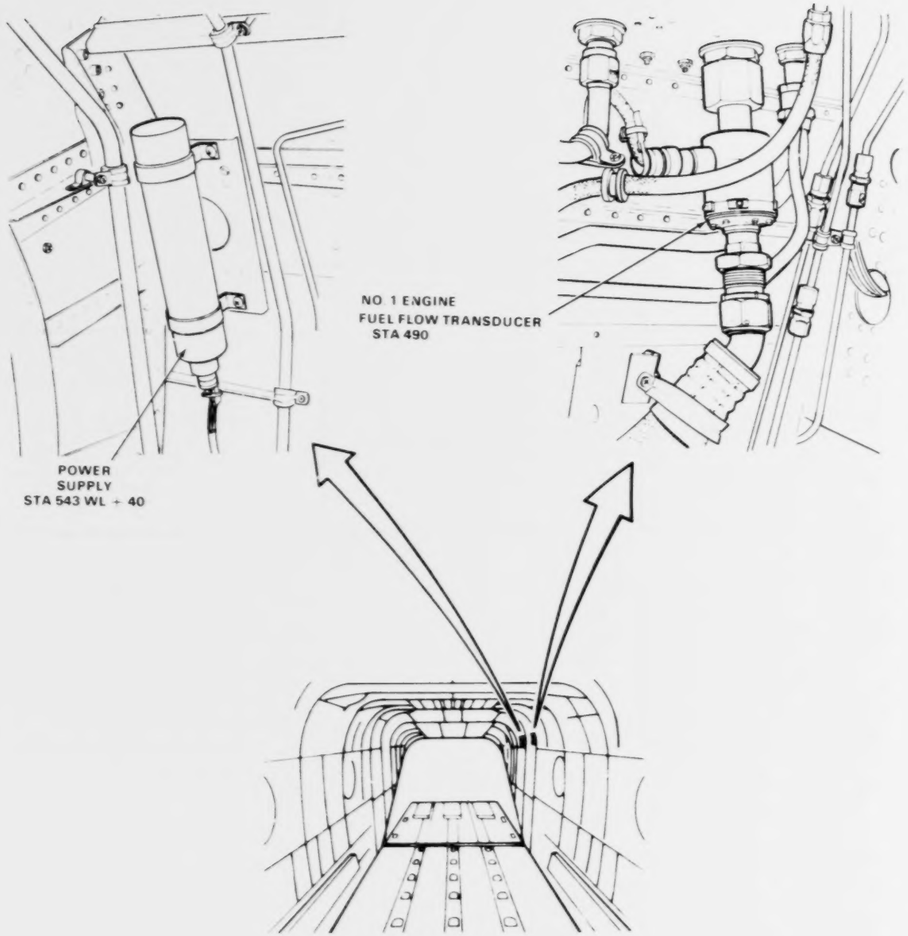
Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power On





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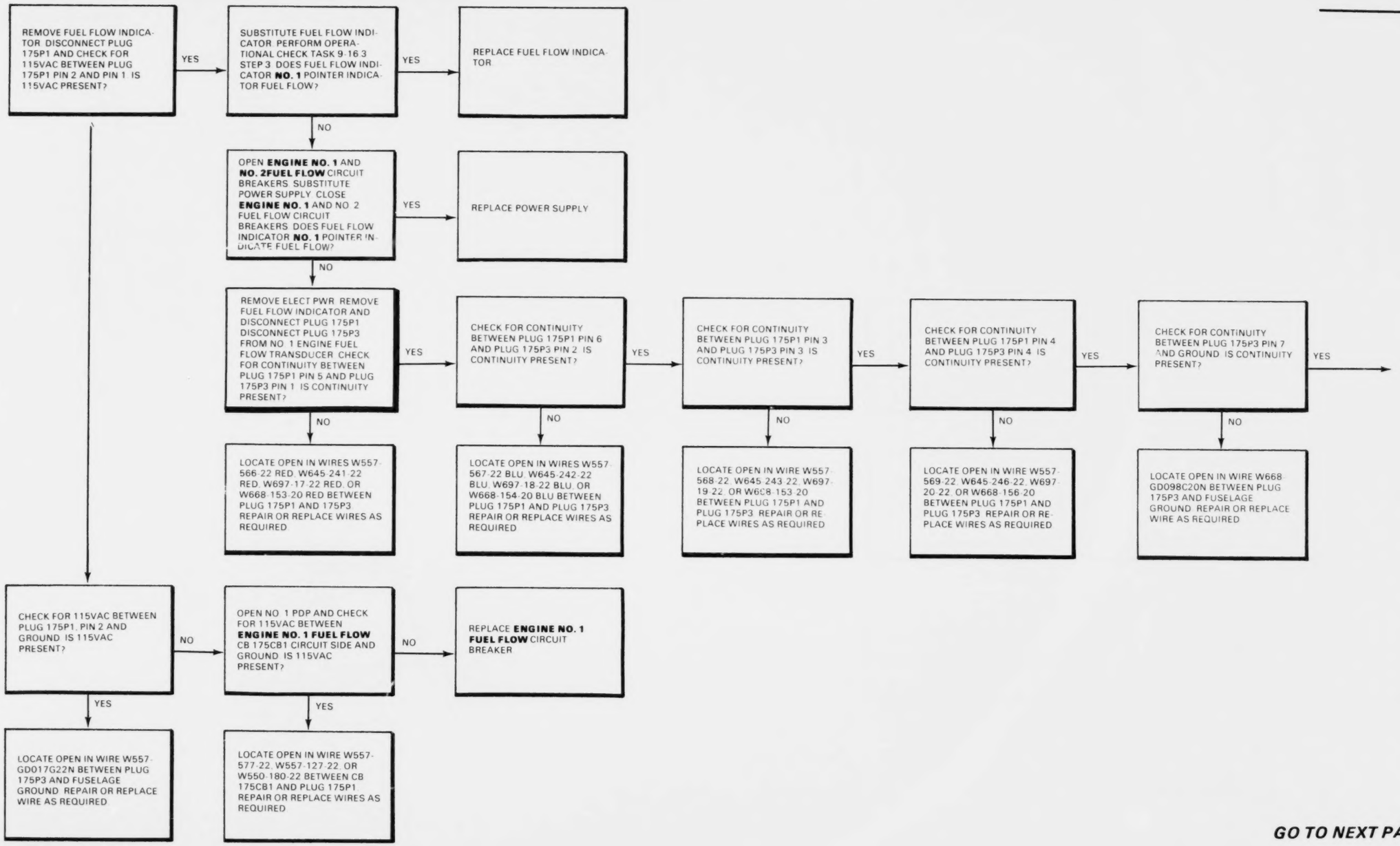
8-16.6 FUEL FLOW INDICATOR NO. 1 POINTER DOES NOT INDICATE FUEL FLOW (Continued)


REMOVE FUEL FLOW INDICATOR. DISCONNECT PLUG 175P1 AND CHECK FOR 115VAC BETWEEN PLUG 175P1 PIN 2 AND PIN 1. IS 115VAC PRESENT?
YES
SUBSTITUTE FUEL FLOW INDICATOR. PERFORM OPERATIONAL CHECK TASK 9-16.3 STEP 3. DOES FUEL FLOW INDICATOR **NO. 1** POINTER INDICATOR FUEL FLOW?
YES
REPLACE FUEL FLOW INDICATOR.
NO
OPEN **ENGINE NO. 1** AND **NO. 2FUEL FLOW** CIRCUIT BREAKERS. SUBSTITUTE POWER SUPPLY. CLOSE **ENGINE NO. 1** AND NO. 2 FUEL FLOW CIRCUIT BREAKERS. DOES FUEL FLOW INDICATOR **NO. 1** POINTER INDICATE FUEL FLOW?
YES
REPLACE POWER SUPPLY.
NO
REMOVE ELECT PWR. REMOVE FUEL FLOW INDICATOR AND DISCONNECT PLUG 175P1. DISCONNECT PLUG 175P3 FROM NO. 1 ENGINE FUEL FLOW TRANSDUCER. CHECK FOR CONTINUITY BETWEEN PLUG 175P1 PIN 5 AND PLUG 175P3 PIN 1. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 175P1 PIN 6 AND PLUG 175P3 PIN 2. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 175P1 PIN 3 AND PLUG 175P3 PIN 3. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 175P1 PIN 4 AND PLUG 175P3 PIN 4. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 175P3 PIN 7 AND GROUND. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRES W557-566-22 RED, W645-241-22 RED, W697-17-22 RED, OR W668-153-20 RED BETWEEN PLUG 175P1 AND 175P3. REPAIR OR REPLACE WIRES AS REQUIRED.
NO
LOCATE OPEN IN WIRES W557-567-22 BLU, W645-242-22 BLU, W697-18-22 BLU, OR W668-154-20 BLU BETWEEN PLUG 175P1 AND PLUG 175P3. REPAIR OR REPLACE WIRES AS REQUIRED.
NO
LOCATE OPEN IN WIRE W557-568-22, W645-243-22, W697-19-22, OR W668-153-20 BETWEEN PLUG 175P1 AND PLUG 175P3. REPAIR OR REPLACE WIRES AS REQUIRED.
NO
LOCATE OPEN IN WIRE W557-569-22, W645-246-22, W697-20-22, OR W668-156-20 BETWEEN PLUG 175P1 AND PLUG 175P3. REPAIR OR REPLACE WIRES AS REQUIRED.
NO
LOCATE OPEN IN WIRE W668-GD098C20N BETWEEN PLUG 175P3 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR 115VAC BETWEEN PLUG 175P1, PIN 2 AND GROUND. IS 115VAC PRESENT?
NO
OPEN NO. 1 PDP AND CHECK FOR 115VAC BETWEEN **ENGINE NO. 1 FUEL FLOW** CB 175CB1 CIRCUIT SIDE AND GROUND. IS 115VAC PRESENT?
NO
REPLACE **ENGINE NO. 1 FUEL FLOW** CIRCUIT BREAKER.
YES
LOCATE OPEN IN WIRE W557-GD017G22N BETWEEN PLUG 175P3 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE OPEN IN WIRE W557-577-22, W557-127-22, OR W550-180-22 BETWEEN CB 175CB1 AND PLUG 175P1. REPAIR OR REPLACE WIRES AS REQUIRED.

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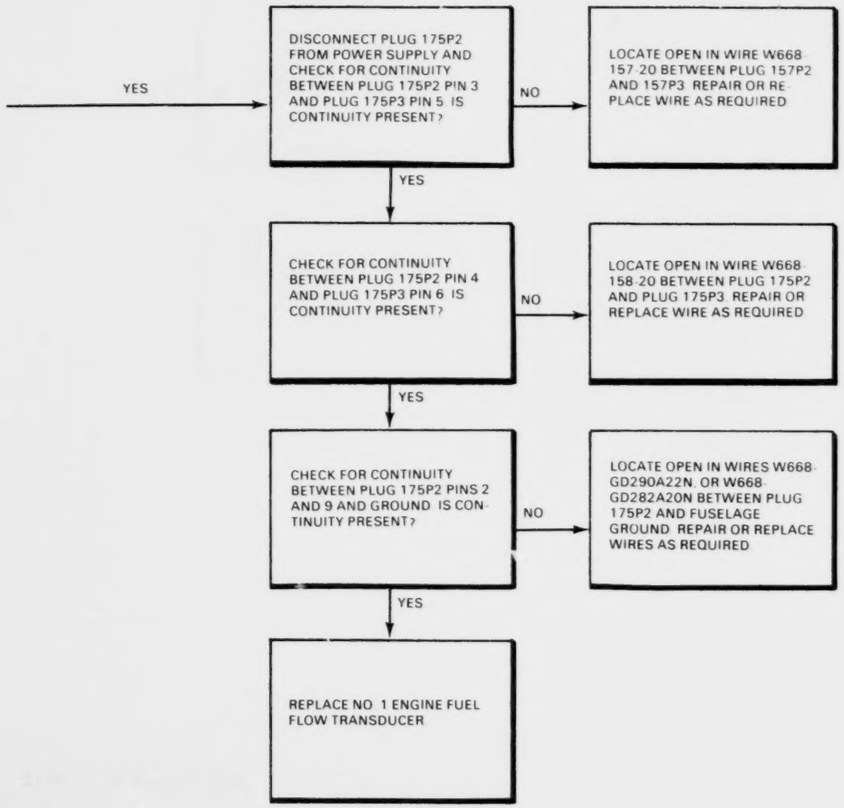
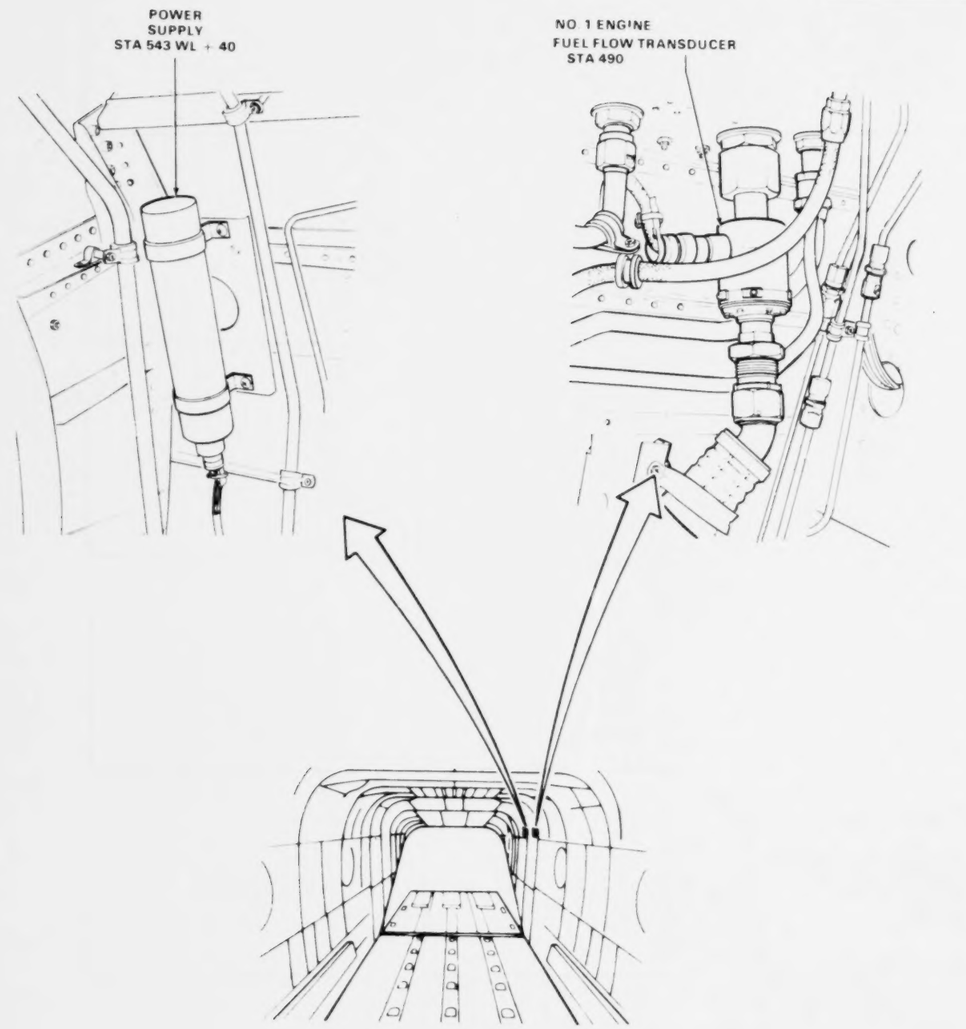
8-16.6 FUEL FLOW INDICATOR NO. 1 POINTER DOES NOT INDICATE FUEL FLOW (Continued)


YES
DISCONNECT PLUG 175P2 FROM POWER SUPPLY AND CHECK FOR CONTINUITY BETWEEN PLUG 175P2 PIN 3 AND PLUG 175P3 PIN 5. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W668-157-20 BETWEEN PLUG 157P2 AND 157P3. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR CONTINUITY BETWEEN PLUG 175P2 PIN 4 AND PLUG 175P3 PIN 6. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W668-158-20 BETWEEN PLUG 175P2 AND PLUG 175P3. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR CONTINUITY BETWEEN PLUG 175P2 PINS 2 AND 9 AND GROUND. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRES W668-GD290A22N, OR W668-GD282A20N BETWEEN PLUG 175P2 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRES AS REQUIRED
YES
REPLACE NO. 1 ENGINE FUEL FLOW TRANSDUCER



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END OF TASK

8-16.7 FUEL FLOW INDICATOR NO. 1 POINTER DOES NOT INDICATE APPROXIMATE FUEL FLOW

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

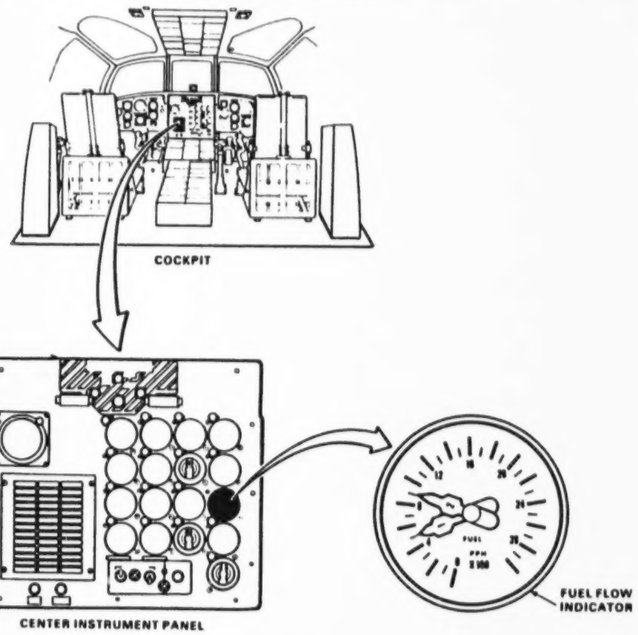
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

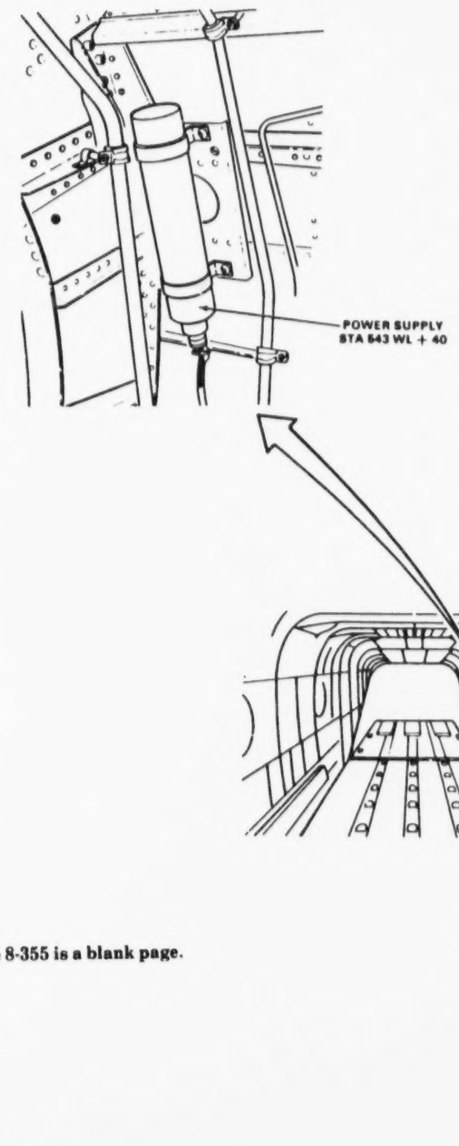
Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power On





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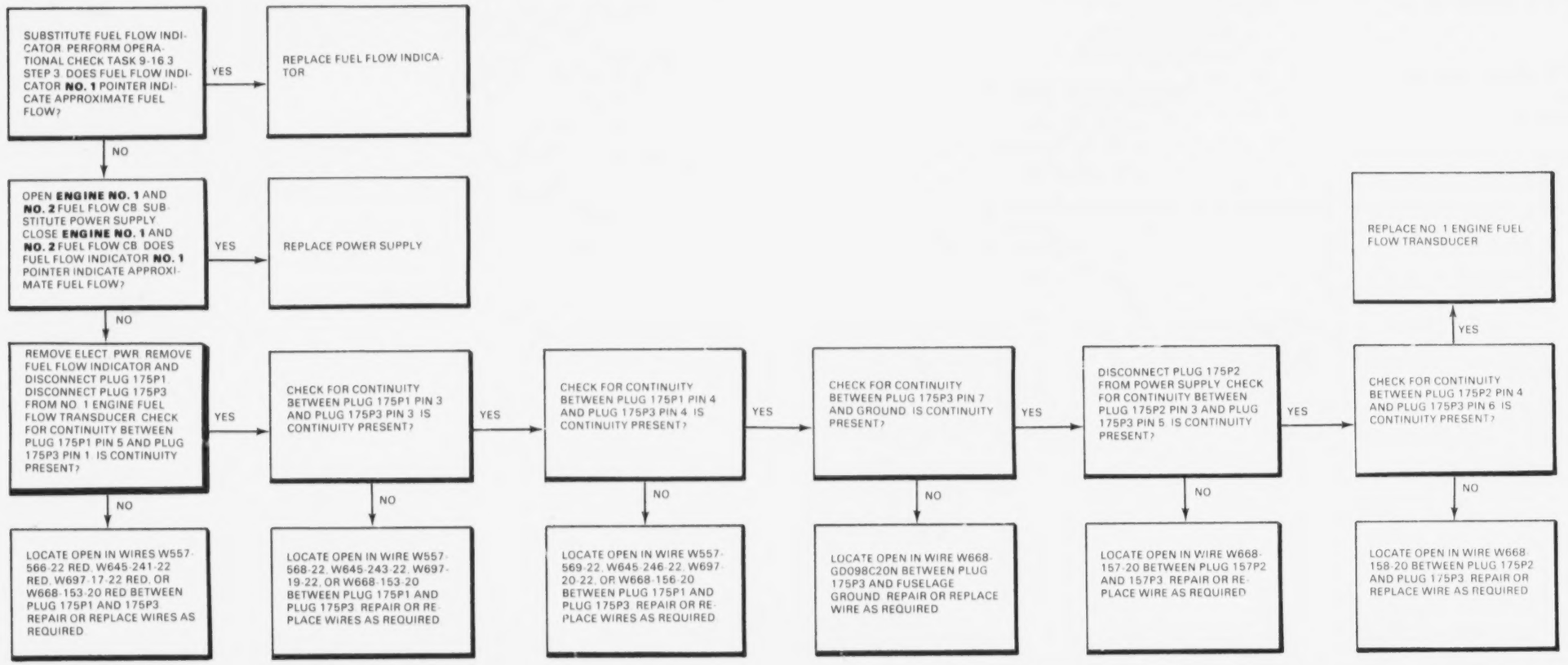
8-16.7 FUEL FLOW INDICATOR NO. 1 POINTER DOES NOT INDICATE APPROXIMATE FUEL FLOW (Continued)


SUBSTITUTE FUEL FLOW INDICATOR. PERFORM OPERATIONAL CHECK TASK 9-16.3 STEP 3. DOES FUEL FLOW INDICATOR **NO. 1** POINTER INDICATE APPROXIMATE FUEL FLOW?
YES
REPLACE FUEL FLOW INDICATOR
NO
OPEN **ENGINE NO. 1** AND **NO. 2** FUEL FLOW CB. SUBSTITUTE POWER SUPPLY. CLOSE **ENGINE NO. 1** AND **NO. 2** FUEL FLOW CB. DOES FUEL FLOW INDICATOR **NO. 1** POINTER INDICATE APPROXIMATE FUEL FLOW?
YES
REPLACE POWER SUPPLY
NO
REMOVE ELECT PWR. REMOVE FUEL FLOW INDICATOR AND DISCONNECT PLUG 175P1. DISCONNECT PLUG 175P3 FROM NO. 1 ENGINE FUEL FLOW TRANSDUCER. CHECK FOR CONTINUITY BETWEEN PLUG 175P1 PIN 5 AND PLUG 175P3 PIN 1. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 175P1 PIN 3 AND PLUG 175P3 PIN 3. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 175P1 PIN 4 AND PLUG 175P3 PIN 4. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 175P3 PIN 7 AND GROUND. IS CONTINUITY PRESENT?
YES
DISCONNECT PLUG 175P2 FROM POWER SUPPLY. CHECK FOR CONTINUITY BETWEEN PLUG 175P2 PIN 3 AND PLUG 175P3 PIN 5. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 175P2 PIN 4 AND PLUG 175P3 PIN 6. IS CONTINUITY PRESENT?
YES
REPLACE NO. 1 ENGINE FUEL FLOW TRANSDUCER
NO
LOCATE OPEN IN WIRES W557-566-22 RED, W645-241-22 RED, W697-17-22 RED, OR W668-153-20 RED BETWEEN PLUG 175P1 AND 175P3. REPAIR OR REPLACE WIRES AS REQUIRED.
NO
LOCATE OPEN IN WIRE W557-568-22, W645-243-22, W697-19-22, OR W668-153-20 BETWEEN PLUG 175P1 AND PLUG 175P3. REPAIR OR REPLACE WIRES AS REQUIRED.
NO
LOCATE OPEN IN WIRE W557-569-22, W645-246-22, W697-20-22, OR W668-156-20 BETWEEN PLUG 175P1 AND PLUG 175P3. REPAIR OR REPLACE WIRES AS REQUIRED.
NO
LOCATE OPEN IN WIRE W668-GD098C20N BETWEEN PLUG 175P3 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W668-157-20 BETWEEN PLUG 157P2 AND 157P3. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W668-158-20 BETWEEN PLUG 175P2 AND PLUG 175P3. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

8-16.8 FUEL FLOW INDICATOR NO. 2 POINTER DOES NOT INDICATE FUEL FLOW

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

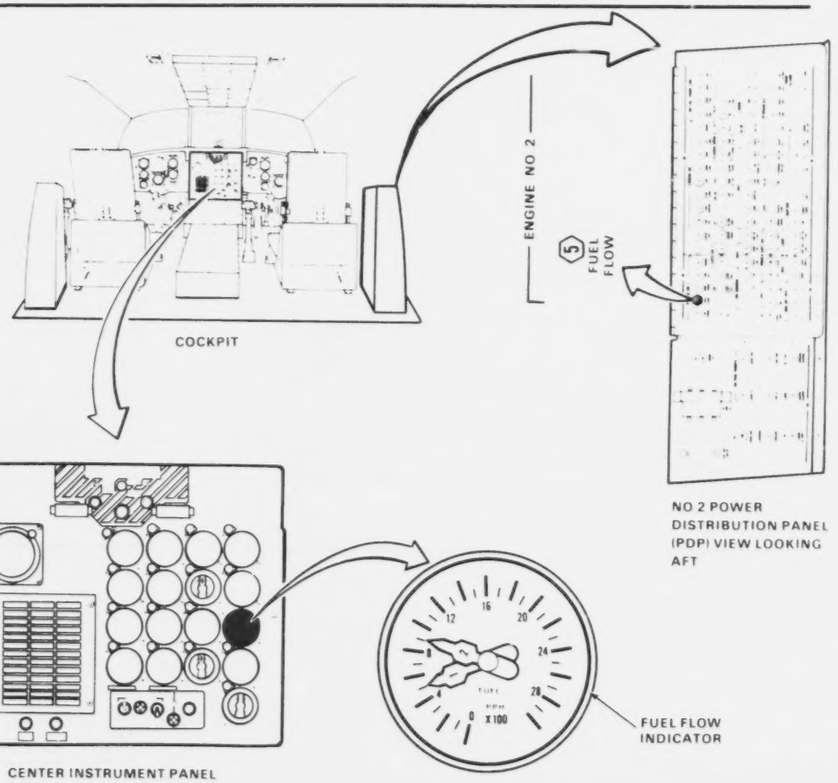
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

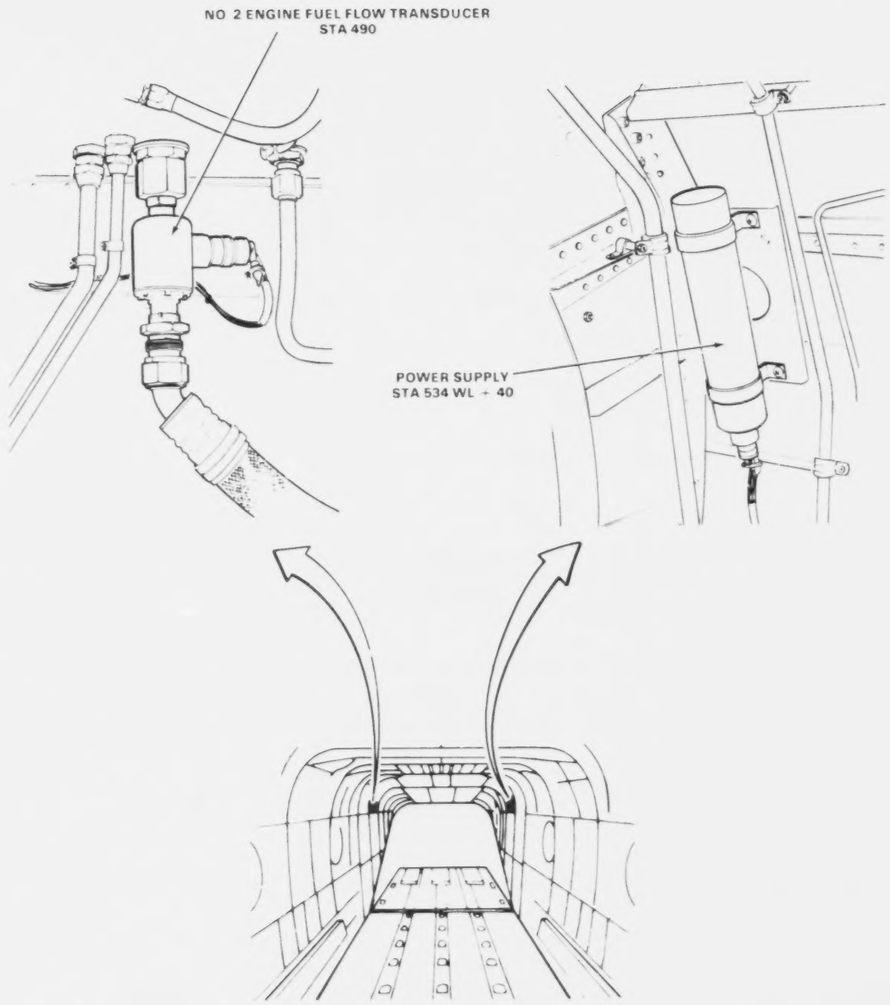
Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Condition
Electrical Power On
Hydraulic Power On





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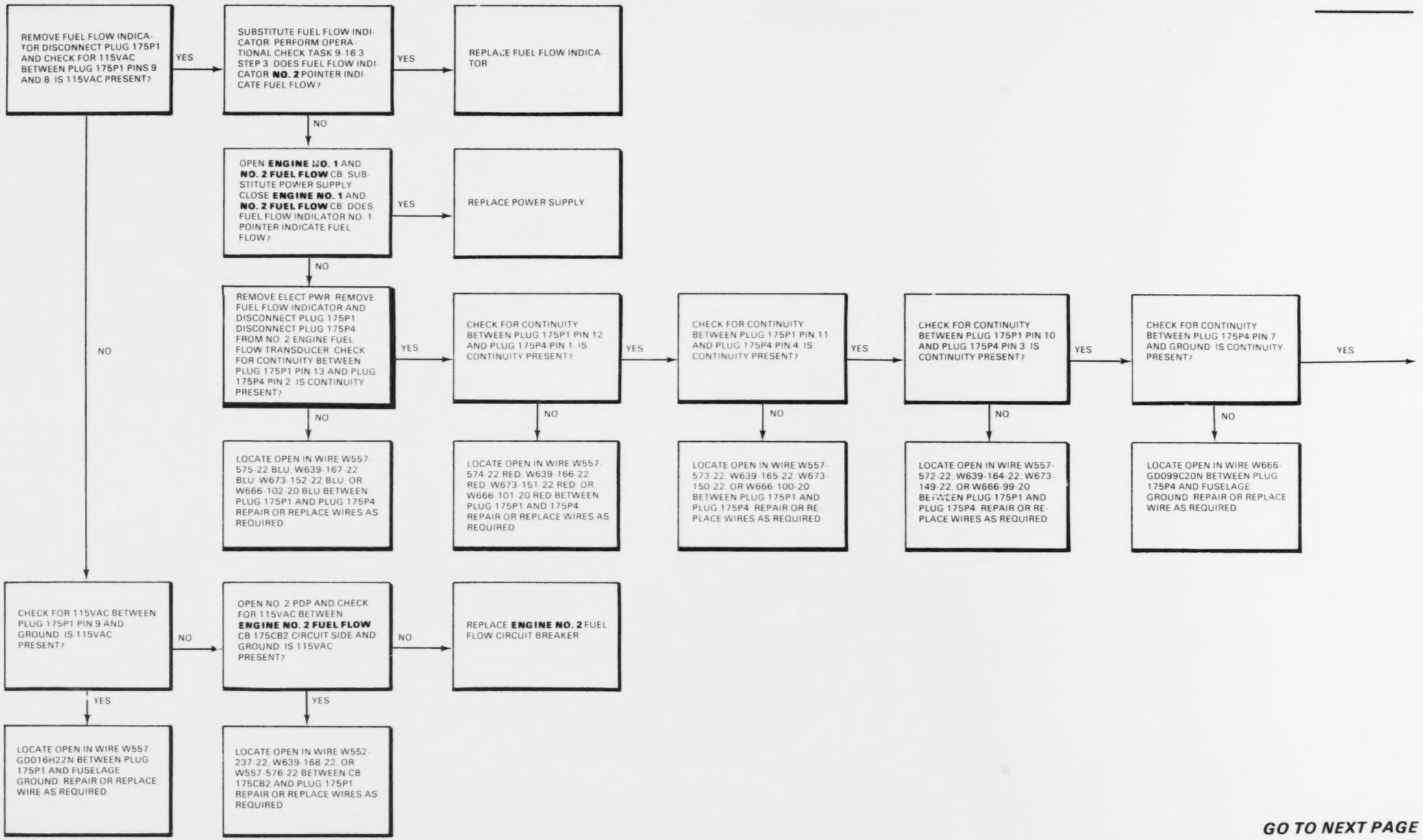
8-16.8 FUEL FLOW INDICATOR NO. 2 POINTER DOES NOT INDICATE FUEL FLOW (Continued)


REMOVE FUEL FLOW INDICATOR DISCONNECT PLUG 175P1 AND CHECK FOR 115VAC BETWEEN PLUG 175P1 PINS 9 AND 8 IS 115VAC PRESENT?
YES
SUBSTITUTE FUEL FLOW INDICATOR PERFORM OPERATIONAL CHECK TASK 9-16 3 STEP 3 DOES FUEL FLOW INDICATOR NO. 2 POINTER INDICATE FUEL FLOW?
YES
REPLACE FUEL FLOW INDICATOR
NO
OPEN ENGINE NO. 1 AND NO. 2 FUEL FLOW CB SUBSTITUTE POWER SUPPLY CLOSE ENGINE NO. 1 AND NO. 2 FUEL FLOW CB DOES FUEL FLOW INDICATOR NO 1 POINTER INDICATE FUEL FLOW?
YES
REPLACE POWER SUPPLY
NO
REMOVE ELECT PWR REMOVE FUEL FLOW INDICATOR AND DISCONNECT PLUG 175P1 DISCONNECT PLUG 175P4 FROM NO 2 ENGINE FUEL FLOW TRANSDUCER CHECK FOR CONTINUITY BETWEEN PLUG 175P1 PIN 13 AND PLUG 175P4 PIN 2 IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 175P1 PIN 12 AND PLUG 175P4 PIN 1 IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 175P1 PIN 11 AND PLUG 175P4 PIN 4 IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 175P1 PIN 10 AND PLUG 175P4 PIN 3 IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 175P4 PIN 7 AND GROUND IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-575-22 BLU, W639-167-22 BLU, W673-152-22 BLU, OR W666-102-20 BLU BETWEEN PLUG 175P1 AND PLUG 175P4 REPAIR OR REPLACE WIRES AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-574-22 RED, W639-166-22 RED, W673-151-22 RED, OR W666-101-20 RED BETWEEN PLUG 175P1 AND 175P4 REPAIR OR REPLACE WIRES AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-573-22, W639-165-22, W673-150-22, OR W666-100-20 BETWEEN PLUG 175P1 AND PLUG 175P4 REPAIR OR REPLACE WIRES AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-572-22, W639-164-22, W673-149-22, OR W666-99-20 BETWEEN PLUG 175P1 AND PLUG 175P4 REPAIR OR REPLACE WIRES AS REQUIRED
NO
LOCATE OPEN IN WIRE W666-GD099C20N BETWEEN PLUG 175P4 AND FUSELAGE GROUND REPAIR OR REPLACE WIRE AS REQUIRED
NO
CHECK FOR 115VAC BETWEEN PLUG 175P1 PIN 9 AND GROUND IS 115VAC PRESENT?
NO
OPEN NO 2 PDP AND CHECK FOR 115VAC BETWEEN ENGINE NO. 2 FUEL FLOW CB 175CB2 CIRCUIT SIDE AND GROUND IS 115VAC PRESENT?
NO
REPLACE ENGINE NO. 2 FUEL FLOW CIRCUIT BREAKER
YES
LOCATE OPEN IN WIRE W557-GD016H22N BETWEEN PLUG 175P1 AND FUSELAGE GROUND REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE OPEN IN WIRE W552-237-22, W639-168-22, OR W557-576-22 BETWEEN CB 175CB2 AND PLUG 175P1 REPAIR OR REPLACE WIRES AS REQUIRED

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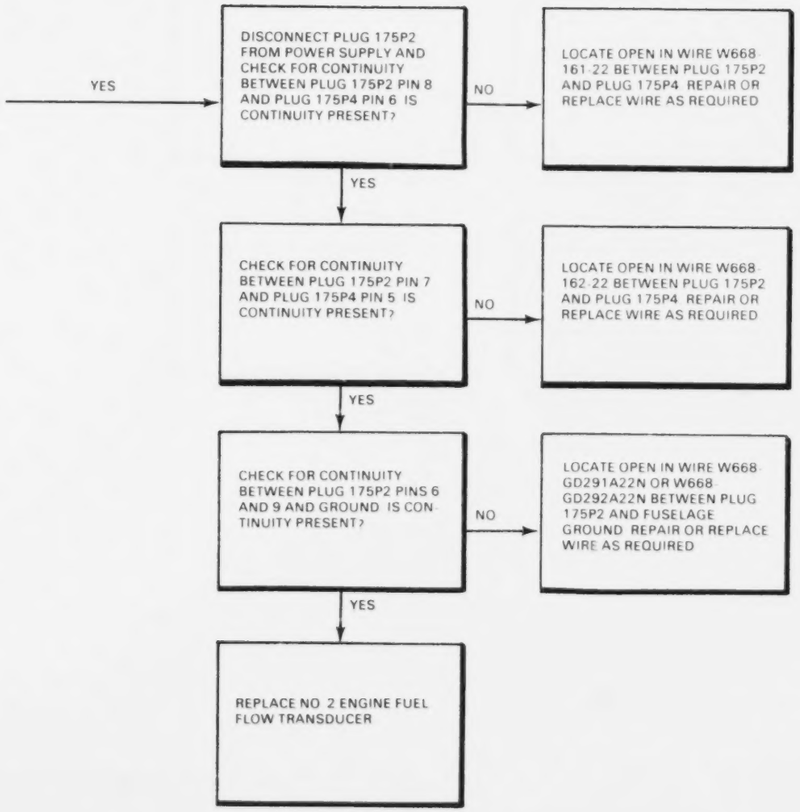
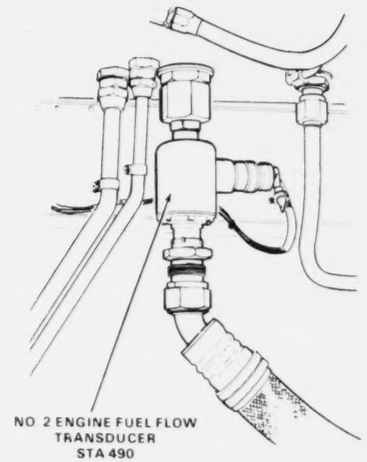
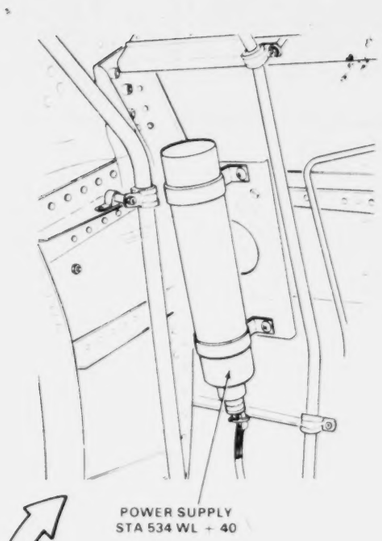
8-16.8 FUEL FLOW INDICATOR NO. 2 POINTER DOES NOT INDICATE FUEL FLOW (Continued)


YES
DISCONNECT PLUG 175P2 FROM POWER SUPPLY AND CHECK FOR CONTINUITY BETWEEN PLUG 175P2 PIN 8 AND PLUG 175P4 PIN 6 IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W668-161-22 BETWEEN PLUG 175P2 AND PLUG 175P4 REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR CONTINUITY BETWEEN PLUG 175P2 PIN 7 AND PLUG 175P4 PIN 5 IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W668-162-22 BETWEEN PLUG 175P2 AND PLUG 175P4 REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR CONTINUITY BETWEEN PLUG 175P2 PINS 6 AND 9 AND GROUND IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W668-GD291A22N OR W668-GD292A22N BETWEEN PLUG 175P2 AND FUSELAGE GROUND REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE NO 2 ENGINE FUEL FLOW TRANSDUCER





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END OF TASK

8-16.9 FUEL FLOW INDICATOR NO. 2 POINTER DOES NOT INDICATE APPROXIMATE FUEL FLOW

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

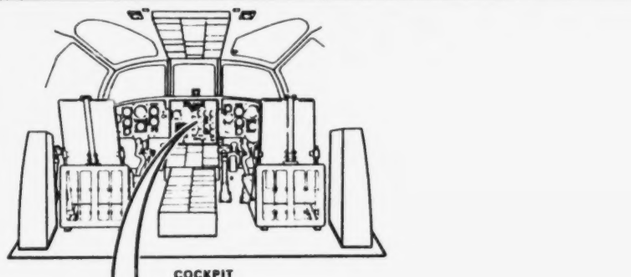
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

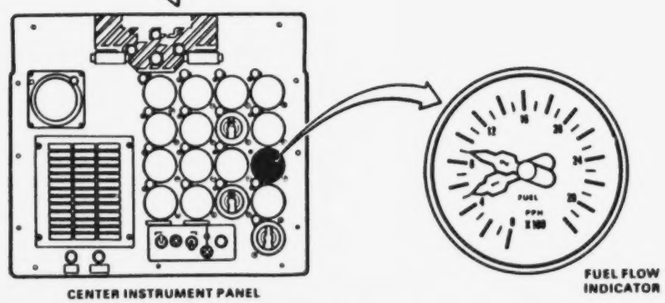
Materials:
None

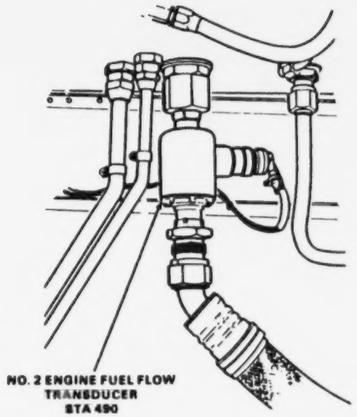
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

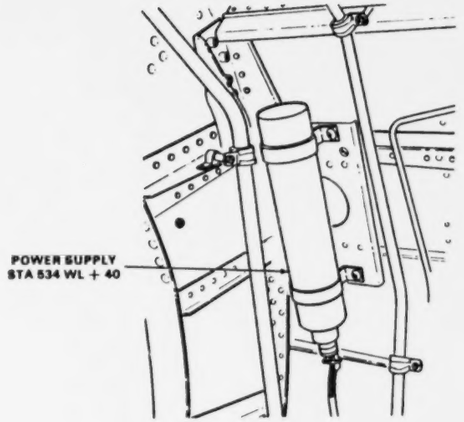
References:
TM 55-1520-240-23

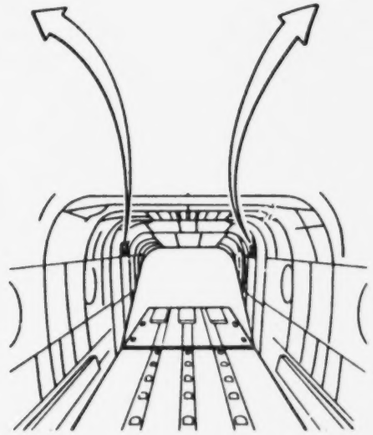
Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power On











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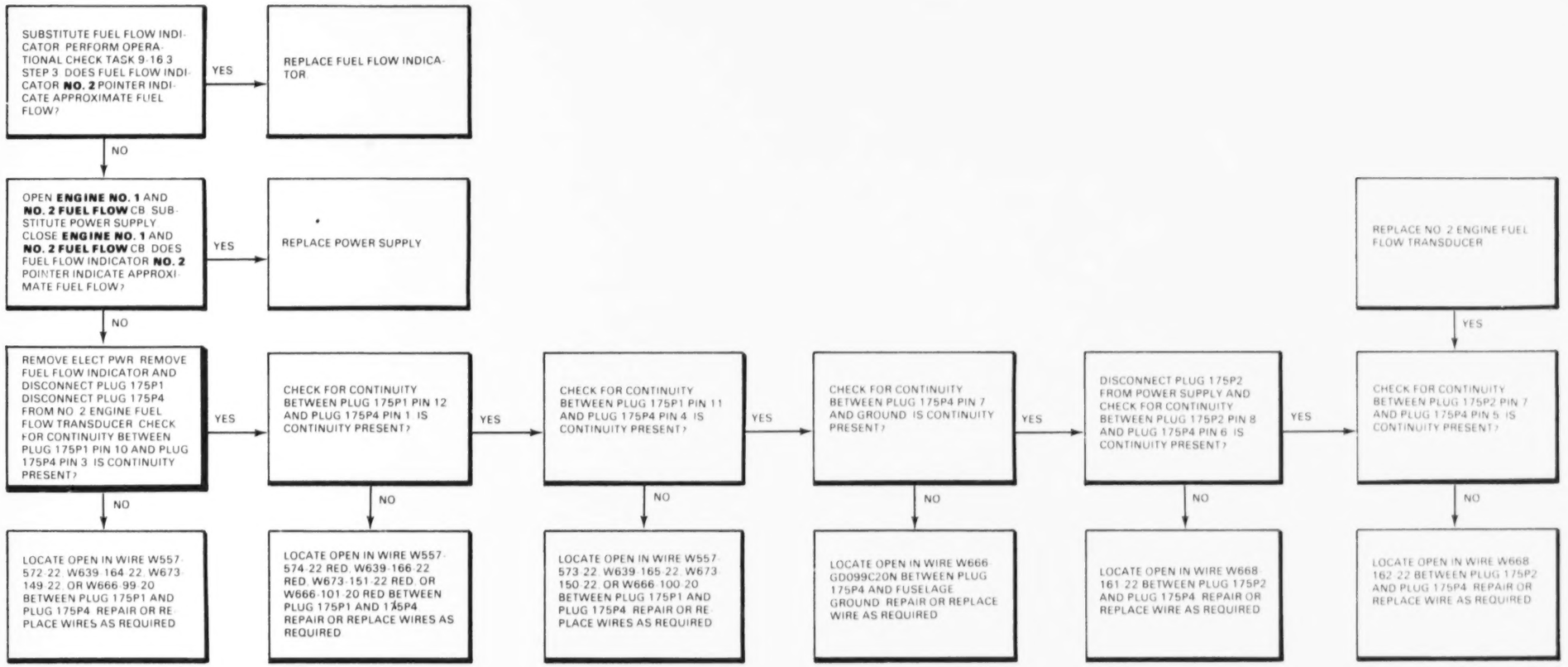
8-16.9 FUEL FLOW INDICATOR NO. 2 POINTER DOES NOT INDICATE APPROXIMATE FUEL FLOW (Continued)


SUBSTITUTE FUEL FLOW INDICATOR. PERFORM OPERATIONAL CHECK TASK 9-16.3 STEP 3. DOES FUEL FLOW INDICATOR **NO. 2** POINTER INDICATE APPROXIMATE FUEL FLOW?
YES
REPLACE FUEL FLOW INDICATOR
NO
OPEN **ENGINE NO. 1** AND **NO. 2 FUEL FLOW** CB. SUBSTITUTE POWER SUPPLY. CLOSE **ENGINE NO. 1** AND **NO. 2 FUEL FLOW** CB. DOES FUEL FLOW INDICATOR **NO. 2** POINTER INDICATE APPROXIMATE FUEL FLOW?
YES
REPLACE POWER SUPPLY
NO
REMOVE ELECT PWR. REMOVE FUEL FLOW INDICATOR AND DISCONNECT PLUG 175P1. DISCONNECT PLUG 175P4 FROM NO. 2 ENGINE FUEL FLOW TRANSDUCER. CHECK FOR CONTINUITY BETWEEN PLUG 175P1 PIN 10 AND PLUG 175P4 PIN 3. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-572-22, W639-164-22, W673-149-22, OR W666-99-20 BETWEEN PLUG 175P1 AND PLUG 175P4. REPAIR OR REPLACE WIRES AS REQUIRED.
CHECK FOR CONTINUITY BETWEEN PLUG 175P1 PIN 12 AND PLUG 175P4 PIN 1. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-574-22 RED, W639-166-22 RED, W673-151-22 RED, OR W666-101-20 RED BETWEEN PLUG 175P1 AND 175P4. REPAIR OR REPLACE WIRES AS REQUIRED.
CHECK FOR CONTINUITY BETWEEN PLUG 175P1 PIN 11 AND PLUG 175P4 PIN 4. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-573-22, W639-165-22, W673-150-22, OR W666-100-20 BETWEEN PLUG 175P1 AND PLUG 175P4. REPAIR OR REPLACE WIRES AS REQUIRED.
CHECK FOR CONTINUITY BETWEEN PLUG 175P4 PIN 7 AND GROUND. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W666-GD099C20N BETWEEN PLUG 175P4 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
DISCONNECT PLUG 175P2 FROM POWER SUPPLY AND CHECK FOR CONTINUITY BETWEEN PLUG 175P2 PIN 8 AND PLUG 175P4 PIN 6. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W668-161-22 BETWEEN PLUG 175P2 AND PLUG 175P4. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR CONTINUITY BETWEEN PLUG 175P2 PIN 7 AND PLUG 175P4 PIN 5. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W668-162-22 BETWEEN PLUG 175P2 AND PLUG 175P4. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE NO. 2 ENGINE FUEL FLOW TRANSDUCER
YES

END OF TASK

CHAPTER 9

ELECTRICAL SYSTEMS TROUBLESHOOTING

CHAPTER 9
ELECTRICAL SYSTEM TROUBLESHOOTING

CHAPTER OVERVIEW

Chapter 9 contains procedures for Electrical System troubleshooting. Each system and failure symptom is listed below. Included in this chapter are locations and views of all electrical connectors, receptacles, relays, and ground connections for the Electrical System.

Refer to TM 55-1520-240-23 for required maintenance procedures.

SYSTEM	PARA
DC POWER SYSTEM	9-1
AC POWER SYSTEM	9-2
POSITION LIGHTS	9-3
LANDING (SEARCHLIGHTS)	9-4
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PILOT'S FLIGHT INSTRUMENT PANEL LIGHTS	9-8
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FAILURE SYMPTOM LIST

DC POWER SYSTEM

SYMPTOM	TASK
ANTICOLLISION LIGHTS DO NOT FLASH, NO. 1 DC SYSTEM TURNED OFF	9-1.4
ANTICOLLISION LIGHTS DO NOT FLASH, NO. 2 DC SYSTEM TURNED OFF	9-1.4
BATTERY CHARGING AND CHARGE COMPLETE LIGHTS OUT	9-1.4
BATTERY CHARGING OR CHARGE COMPLETE LIGHT DOES NOT COME ON WHEN PRESSED	9-1.4
BATTERY SYSTEM MAL CAPSULE ON	9-1.4
CABIN AND RAMP LIGHTS NOT POWERED FROM SWITCHING BATTERY BUSS	9-1.4
EXTERNAL DC SUPPLY DOES NOT POWER DC BUSSES	9-1.4
EXTERNAL POWER CAPSULE OUT WHEN EXTERNAL DC SUPPLY CONNECTED	9-1.4
MASTER CAUTION LIGHTS DO NOT COME ON WHEN BATTERY SWITCH SET TO ON	9-1.4
NO. 1 AND NO. 2 RECT OFF CAPSULE OUT WHEN EXTERNAL DC SUPPLY CONNECTED	9-1.4
NO. 1 OR NO. 2 RECT OFF CAPSULE NOT ON	9-1.4
NO. 1 RECT OFF CAPSULE ON WHEN APU RUNNING	9-1.4
NO. 2 RECT OFF CAPSULE ON WHEN APU RUNNING	9-1.4
OVERHEAD PANEL LIGHTS DO NOT COME ON NO. 1 DC SYSTEM TURNED OFF	9-1.4
OVERHEAD PANEL LIGHTS DO NOT COME ON, NO. 1 DC SYSTEM TURNED ON	9-1.4
SWITCHED BATTERY BUS OR ESSENTIAL BUS NOT POWERED BY NO. 1 DC BUS	9-1.4

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FAILURE SYMPTOM LIST (Continued)

SYMPTOM	TASK
AC POWER SYSTEM	
EXTERNAL POWER CAPSULE NOT ON (EXTERNAL POWER APPLIED)	9-2.4
NO. 1 AND NO. 2 RECT OFF CAPSULES ON (EXTERNAL POWER ON)	9-2.4
NO. 1 AND NO. 2 RECT OFF CAPSULES ON (NO. 1 GENERATOR SELECTED	9-2.4
NO. 1 AND NO. 2 RECT OFF CAPSULES ON (NO. 2 GENERATOR SELECTED)	9-2.4
NO. 1 AND NO. 2 RECT OFF CAUTION LIGHTS ON	9-2.4
NO. 1 GENERATOR OFF CAPSULE IS ON (GENERATOR SWITCH ON)	9-2.4
NO. 1 GENERATOR OFF CAPSULE STAYS ON (GENERATOR SWITCH IN TEST)	9-2.4
NO. 1 OR NO. 2 GENERATOR OFF CAPSULE OUT	9-2.4
NO. 1 OR NO. 2 RECT OFF CAPSULE ON WHEN GEN NO. 1 OR NO. 2 SWITCH TURNED OFF	9-2.4
NO. 2 GENERATOR OFF CAPSULE IS ON (GENERATOR SWITCH ON)	9-2.4
NO. 2 GENERATOR OFF CAPSULE STAYS ON (GENERATOR SWITCH IN TEST)	9-2.4
POSITION LIGHTS	
POS CIRCUIT BREAKER DOES NOT STAY CLOSED	9-3.3
POSITION LIGHT OR LIGHTS NOT LIT AT BRT	9-3.3
POSITION LIGHT OR LIGHTS NOT LIT AT DIM	9-3.3
LANDING LIGHTS (SEARCHLIGHTS)	
COPILOT'S LANDING LIGHT DOES NOT COME ON	9-4.4
COPILOT'S LANDING LIGHT DOES NOT EXTEND OR DOES NOT FULLY EXTEND	9-4.4
COPILOT'S LANDING LIGHT WILL NOT RETRACT WITH CO-PLT SLT CONT SWITCH	9-4.4
LANDING LIGHT DOES NOT RETRACT OR DOES NOT FULLY RETRACT INTO HOUSING	9-4.4
PILOT'S LANDING LIGHT DOES NOT COME ON	9-4.4
PILOT'S LANDING LIGHT DOES NOT EXTEND OR DOES NOT FULLY EXTEND	9-4.4
PILOT'S LANDING LIGHT WILL NOT RETRACT WITH PLT SLT CONT SWITCH	9-4.4
PILOT'S OR COPILOT'S LANDING LIGHT WILL NOT ROTATE CLOCKWISE OR COUNTERCLOCKWISE	9-4.4
SLT CONT CIRCUIT BREAKER (CO-PILOT'S) DOES NOT STAY CLOSED	9-4.4
SLT CONT CIRCUIT BREAKER (PILOT'S) DOES NOT STAY CLOSED	9-4.4
SLT FIL CIRCUIT BREAKER DOES NOT STAY CLOSED	9-4.4
FORMATION LIGHTS (WITHOUT 17)	
FORM CIRCUIT BREAKER DOES NOT STAY CLOSED	9-5.3
FORMATION LIGHT OR LIGHTS NOT ON AT DIM	9-5.3
FORMATION LIGHTS OUT OR DO NOT GET BRIGHTER AT INTERMEDIATE OR BRT POSITIONS	9-5.3
FORMATION LIGHTS (WITH 17)	
NORMAL FORM CIRCUIT BREAKER DOES NOT STAY CLOSED	9-5.9
NORMAL FORMATION LIGHT OR LIGHTS NOT ON AT DIM	9-5.9
NORMAL FORMATION LIGHTS OUT OR DO NOT GET BRIGHTER AT INTERMEDIATE OR BRT POSITIONS	9-5.9
NVG FORM CIRCUIT BREAKER DOES NOT STAY CLOSED	9-5.9
NVG FORMATION LIGHT OR LIGHTS NOT ON AT DIM	9-5.9
NVG FORMATION LIGHTS OUT OR DO NOT GET BRIGHTER AT INTERMEDIATE OR BRT POSITION	9-5.9
ANTICOLLISION LIGHTS	
ANTI-COL BOT OR TOP CIRCUIT BREAKER DOES NOT STAY CLOSED	9-6.3
ANTI COLLISION LIGHT, TOP OR BOTTOM, DOES NOT FLASH OR DOES NOT FLASH 40-60 TIMES/MINUTE	9-6.3

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FAILURE SYMPTOM LIST (Continued)

SYMPTOM	TASK
FORWARD TRANSMISSION OIL LEVEL CHECK LIGHT	
FORWARD TRANSMISSION OIL LEVEL CHECK LIGHT NOT LIT	9-7.3
OIL LEVEL CHECK CIRCUIT BREAKER DOES NOT STAY CLOSED	9-7.3
PILOT'S FLIGHT INSTRUMENT PANEL LIGHTS (WITHOUT 17)	
PILOT INSTR CIRCUIT BREAKER DOES NOT STAY CLOSED	9-8.3
PILOT'S FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT	9-8.3
PILOT'S FLIGHT INSTRUMENT PANEL LIGHTS (WITH 17)	
PILOT INSTR CIRCUIT BREAKER DOES NOT STAY CLOSED	9-8.8
PILOT'S FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT	9-8.8
CENTER FLIGHT INSTRUMENT PANEL LIGHTS (WITHOUT 17)	
CENTER FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT	9-9.3
CTR INSTR CIRCUIT BREAKER DOES NOT STAY CLOSED	9-9.3
CENTER FLIGHT INSTRUMENT PANEL LIGHTS (WITH 17)	
CENTER FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT	9-9.8
CTR INSTR CIRCUIT BREAKER DOES NOT STAY CLOSED	9-9.8
COPILOT'S FLIGHT INSTRUMENT PANEL LIGHTS (WITHOUT 17)	
COPILOT'S FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT	9-10.3
COPLT INST CIRCUIT BREAKER DOES NOT STAY CLOSED	9-10.3
COPILOT'S FLIGHT INSTRUMENT PANEL LIGHTS (WITH 17)	
COPILOT'S FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT	9-10.8
COPLT INST CIRCUIT BREAKER DOES NOT STAY CLOSED	9-10.8
OVERHEAD PANEL LIGHTS (WITHOUT 17)	
OVERHEAD PANEL LIGHT OR LIGHTS NOT LIT	9-11.3
OVHD PNL CIRCUIT BREAKER DOES NOT STAY CLOSED	9-11.3
OVERHEAD PANEL LIGHTS (WITH 17)	
OVERHEAD PANEL LIGHT OR LIGHTS NOT LIT	9-11.8
OVHD PNL CIRCUIT BREAKER DOES NOT STAY CLOSED	9-11.8

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FAILURE SYMPTOM LIST (Continued)

SYMPTOM	TASK
CONSOLE CIRCUIT BREAKERS	
CONSOLE CIRCUIT BREAKER DOES NOT STAY CLOSED	9-12.3
CONSOLE PANEL LIGHTS (WITHOUT 17)	
CONSOLE PANEL LIGHT OR LIGHTS NOT LIT	9-12.3
CONSOLE PANEL LIGHTS (WITH 17)	
BARO ALT SWITCH CAPTION DOES NOT LIGHT BRIGHT WHEN PRESSED	9-12.8
CONSOLE CIRCUIT BREAKER WILL NOT STAY CLOSED	9-12.8
CONSOLE PANEL LIGHT OR LIGHTS NOT LIT	9-12.8
ILLUM SW PWR CIRCUIT BREAKER WILL NOT STAY CLOSED	9-12.8
LONGITUDINAL STICK INDICATOR NOT LIT	9-12.8
RAD ALT SWITCH CAPTION DOES NOT LIGHT DIM WHEN PRESSED	9-12.6
SECONDARY COCKPIT LIGHTS (WITHOUT 17)	
FLOOD LIGHTS ON INSTR PANEL AND OVERHEAD PANEL AND LIGHTS ON PILOT AND COPILOT'S TURN AND SLIP INDICATORS DO NOT COME ON	9-13.3
INSTR FLOOD LIGHTING CIRCUIT BREAKER WILL NOT STAY CLOSED	9-13.3
INSTR PANEL, CONSOLE, OR OVERHEAD PANEL FLOOD LIGHTS WILL NOT COME ON	9-13.3
NO. 1 DC BUS CONTROL CIRCUIT BREAKER WILL NOT STAY CLOSED	9-13.3
PILOT AND COPILOT'S TURN AND SLIP INDICATOR LIGHTS VARY IN BRIGHTNESS	9-13.3
PILOT OR COPILOT'S TURN AND SLIP INDICATOR LIGHTS OR OVERHEAD PANEL FLOOD LIGHTS DO NOT COME ON	9-13.3
SECONDARY COCKPIT LIGHTS (WITH 17)	
ALL FLOOD LIGHTS DO NOT COME ON WHEN PLT INST LIGHT CONTROL SET TO OFF	9-13.12
CKPT DIM CONT CIRCUIT BREAKER WILL NOT STAY CLOSED	9-13.12
INSTR FLOOD LIGHTING CIRCUIT BREAKER WILL NOT STAY CLOSED	9-13.12
INSTR PANEL OR OVERHEAD PANEL FLOOD LIGHTS WILL NOT COME ON	9-13.12
COCKPIT DOME AND UTILITY LIGHTS (WITHOUT 17)	
COCKPIT DOME CIRCUIT BREAKER DOES NOT STAY CLOSED	9-14.3
COCKPIT DOME RED LIGHT OR LIGHTS DO NOT COME ON	9-14.3
COCKPIT DOME WHITE LIGHT OR LIGHTS DO NOT COME ON	9-14.3
UTILITY LIGHT OR LIGHTS DO NOT COME ON	9-14.3
COCKPIT DOME AND UTILITY LIGHTS (WITH 17)	
COCKPIT DOME CIRCUIT BREAKER DOES NOT STAY CLOSED	9-14.10
COCKPIT DOME NVG LIGHT OR LIGHTS DO NOT COME ON	9-14.10
COCKPIT DOME WHITE LIGHT OR LIGHTS DO NOT COME	9-14.10
UTILITY LIGHT OR LIGHTS DO NOT COME ON	9-14.10

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SYMPTOM	TASK
CABIN & RAMP CIRCUIT BREAKER DOES NOT STAY CLOSED	9-15.3
CABIN AND RAMP DOME RED LIGHTS DO NOT COME ON WHEN CABIN & RAMP LIGHTS SWITCH SET TO RED ON	9-15.3
CABIN AND RAMP DOME RED LIGHT OR LIGHTS NOT LIT	9-15.3
CABIN & RAMP CIRCUIT BREAKER DOES NOT STAY CLOSED	9-15.11
GREEN LIGHTS ON FWD AND AFT TROOP WARNING BOXES DO NOT GO DIM	9-16.3
GREEN LIGHT ON FWD OR AFT TROOP WARNING BOX OR GREEN TROOP JUMP LTS LIGHT DO NOT COME ON BRIGHT	9-16.3
GREEN TROOP JUMP LTS LIGHT DOES NOT GO DIM	9-16.3
LEFT TROOP JUMP LTS LIGHT DOES NOT COME ON WHEN PRESSED	9-16.3
RED LIGHTS ON FWD AND AFT TROOP WARNING BOXES DO NOT GO DIM	9-16.3
CABIN AC RECEPTACLE CIRCUIT BREAKER WILL NOT STAY CLOSED	9-17.3
NO ELECTRICAL POWER AT UTILITY AC RECEPTACLE ON LEFT SIDE OF AIRCRAFT	9-17.3
NO ELECTRICAL POWER AT UTILITY AC RECEPTACLE ON RIGHT SIDE OF AIRCRAFT	9-17.3

SYMPTOM	TASK
CABIN AND RAMP LIGHTS (WITHOUT 17)	
CABIN AND RAMP DOME WHITE LIGHTS DO NOT GO OUT WHEN CAB & RAMP LT SWITCH SET TO ALL OFF	9-15.3
CABIN AND RAMP WHITE LIGHT OR LIGHTS NOT LIT	9-15.3
CABIN AND RAMP LIGHTS (WITH 17)	
CABIN AND RAMP DOME BLUE LIGHT OR LIGHTS NOT LIT	9-15.11
TROOP WARNING SYSTEM	
RED LIGHT ON FWD OR AFT TROOP WARNING BOX OR RED TROOP JUMP LTS LIGHT DO NOT COME ON BRIGHT	9-16.3
RIGHT TROOP JUMP LTS LIGHT DOES NOT COME ON WHEN PRESSED	9-16.3
RED TROOP JUMP LT LIGHT DOES NOT GO DIM (WITH 17)	9-16.3
RED TROOP JUMP LTS LIGHT DOES NOT GO DIM (WITHOUT 17)	9-16.3
UTILITY RECEPTACLES	
NO ELECTRICAL POWER AT UTILITY DC RECEPTACLES ON LEFT SIDE OF AIRCRAFT	9-17.3
NO ELECTRICAL POWER AT UTILITY DC RECEPTACLES ON RIGHT SIDE OF AIRCRAFT	9-17.3

SYMPTOM	TASK
CABIN AND RAMP DOME WHITE LIGHTS STAY ON WHEN CABIN & RAMP LIGHTS SWITCH SET TO ALL OFF	9-15.3
CABIN AND RAMP DOME RED LIGHT OR LIGHTS NOT LIT	9-15.11
TROOP ALARM BELL ON FWD OR AFT TROOP WARNING BOX DO NOT SOUND WHEN TROOP ALARM SWITCH IS SET TO ON	9-16.3
TROOP ALARM BELL CIRCUIT BREAKER WILL NOT STAY CLOSED	9-16.3
TROOP ALARM JUMP LTS CIRCUIT BREAKER WILL NOT STAY CLOSED	9-16.3
UTILITY RECEPTACLE CIRCUIT BREAKERS WILL NOT STAY CLOSED	9-17.3

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FAILURE SYMPTOM LIST (Continued)

SYMPTOM	TASK
MASTER CAUTION SYSTEM	
BOTH MASTER CAUTION LIGHTS ARE ON BUT ONE IS BRIGHT AND ONE IS DIM	9-18.3
CAUTION PNL CIRCUIT BREAKER WILL NOT STAY CLOSED	9-18.3
LIGHTS DO NOT COME ON WHEN CAUTION LIGHTS TEST SWITCH IS AT TEST	9-18.3
MASTER CAUTION PANEL CAPSULES AND MASTER CAUTION LIGHTS ARE DIM WHEN ELECTRICAL POWER APPLIED OR WHEN CAUTION LIGHT SWITCH SET TO BRIGHT	9-18.3
MASTER CAUTION PANEL LIGHTS DO NOT COME ON WHEN BATTERY SWITCH SET TO ON	9-18.3
MASTER CAUTION PANEL LIGHTS DO NOT GO BRIGHT WHEN DOME SELECT SWITCH SET TO WHITE	9-18.3
MASTER CAUTION PANEL LIGHTS OR MASTER CAUTION LIGHTS WILL NOT DIM	9-18.3
PILOT'S AND COPILOT'S MASTER CAUTION LIGHT WILL NOT GO OUT	9-18.3
PILOT'S OR COPILOT'S MASTER CAUTION LIGHTS DO NOT COME ON WHEN ELECTRICAL POWER IS APPLIED	9-18.3
AVIONICS COOLING FAN	
AVIONIC COOLING FAN DC CIRCUIT BREAKER WILL NOT STAY CLOSED	9-19.3
AVIONIC COOLING AC CIRCUIT BREAKER WILL NOT STAY CLOSED	9-19.3
WEAK OR NO AIR FLOW IS FELT FROM AVIONIC COOLING FAN	9-19.3
ANTICOLLISION LIGHT (AVIM)	
ANTI-COLLISION LIGHT FAILS AVIM TEST	9-20.3
MASTER CAUTION PANEL	
MASTER CAUTION PANEL FAILS AVIM TEST	9-21.3
CLOCK (WITH 17)	
COPILOT CLOCK CIRCUIT BREAKER DOES NOT STAY CLOSED	9-22.3
COPILOT'S CLOCK DISPLAY DOES NOT INDICATE 88:88 WHEN SELECT BUTTON PRESSED	9-22.3
PILOT CLOCK CIRCUIT BREAKER DOES NOT STAY CLOSED	9-22.3
PILOT'S CLOCK DISPLAY DOES NOT INDICATE 88:88 WHEN SELECT BUTTON PRESSED	9-22.3

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ELECTRICAL SYSTEMS ELECTRICAL COMPONENT LOCATION AND CONFIGURATION LIST

REF DESIG	TYPE	MATE WITH/LOCATION	STATION LOCATION FS	WL	BL
GD006	150	CONSOLE – FWD FLOOR	58	-17	2L
GD014	151	AFT CABIN – ABOVE RAMP	594	50	30L
GD016	150	CONSOLE, FWD CTR INSTR PNL			
GD017	150	CONSOLE, FWD CTR INSTR PNL			
GD026	150	CONSOLE, FWD CTR INSTR PNL			
GD032	151	OVERHEAD PANEL – COCKPIT			
GD034	150	OVERHEAD PANEL – COCKPIT			
GD035	151	OVERHEAD PANEL – COCKPIT			
GD039	151	CONSOLE, FWD CTR INSTR PNL			
GD040	150	CONSOLE, FWD CTR INSTR PNL			
GD045	150	NO. 1 PDP – OTBD SIDEWALL			
GD046	151	NO. 2 PDP – OTBD SIDEWALL			
GD047	150	NO. 2 PDP – OTBD SIDEWALL			
GD048	151	NO. 1 PDP – OTBD SIDEWALL			
GD074	151	PYLON	620	72	0
GD075	151	PYLON	594	110	2L
GD076	151	PYLON	594	110	2L
GD089	151	COCKPIT BOTTOM	70.62	-35	20R
GD090	151	COCKPIT BOTTOM	70.62	-35	20L
GD100	151	AFT CABIN – ABOVE RAMP	594	55	10L
GD102	151	AFT CABIN – ABOVE RAMP	594	65	10R
GD103	151	AFT CABIN – ABOVE RAMP	594	60	20R
GD114	151	FWD TROOP WARN BOX – INSIDE	120	45	40L
GD115	151	AFT TROOP WARN BOX – INSIDE	575	30	50L
GD119	151	AFT CABIN – ABOVE RAMP	594	50	50L
GD122	151	AFT CABIN – ABOVE RAMP	594	50	24L
GD123	151	AFT RH CABIN	482	-5	50R
GD132	150	LH POD – FWD	192	-20	52L
GD146	151	LH POD – FWD	192	-20	52L
GD167	151	CABIN – UNDERFLOOR	280	-40	10L
GD170	151	CABIN OVERHEAD	200	50	0
GD171	151	CABIN OVERHEAD	255	50	20R
GD172	151	CABIN OVERHEAD	250	50	20L
GD173	150	RH POD – FWD	170	-20	52R
GD182	151	LH CABIN	340	30	50L
GD183	151	LH CABIN	260	10	50L
GD184	151	LH CABIN	360	10	50L
GD185	151	RH CABIN	325	52	40R
GD186	151	RH CABIN	260	10	50R
GD187	151	RH CABIN	355	15	50R
GD198	151	RH POD – FWD	170	-12	52R
GD204	151	LH POD – FWD	192	-25	52L
GD206	151	LH POD – FWD	192	-20	52L
GD207	151	NO. 2 PDP – OTBD SIDEWALL			
GD208	151	NO. 1 PDP – OTBD SIDEWALL			
GD209	151	LH POD – FWD	160	-20	52L
GD210	151	RH POD – FWD	170	-20	52L
GD211	151	LH POD – FWD	160	-20	52L
GD213	151	LH POD – FWD	160	-10	52L
GD225	151	FWD TROOP WARN BOX – INSIDE	120	45	40L
GD232	151	LH POD – FWD	160	-20	52L
GD257	151	ELECTRONICS COMP – OVHD	115	40	10L
GD267	151	CONSOLE – FWD FLOOR	58	-17	1L
GD268	151	ELECTRONICS COMP – OVHD	105	20	45L
TB1		PILOTS INSTR PNL			
TB2		COPILOTS INSTR PNL			
TB3		NO. 1 PDP – SIDE WALL			
TB4		CONSOLE – FWD FLOOR	50	17	0
TB7		CONSOLE – FWD CTR INSTR PNL			
TB8		CONSOLE – FWD CTR INSTR PNL			
TB9		PILOT SEARCHLIGHT HOUSING	60	-35	20R
TB10		COPILOT SEARCHLIGHT HOUSING	60	-35	20L
TB11		ELECTRONICS COMP	100	40	50L
TB17		WALKWAY – UNDERFLOOR	105	-30	18R
TB36		OVERHEAD PANEL – COCKPIT	80	40	12R
TB37		OVERHEAD PANEL – COCKPIT	80	40	12L
TB38		OVERHEAD PANEL – COCKPIT	80	45	12L
TB50		NO. 1 PDP – SIDEWALL			
TB51		NO. 2 PDP – SIDEWALL			
TB59		NO. 1 PDP			
TB62		NO. 2 PDP			
084K1	112	ELECTRONICS COMP – OVHD	100	40	50L
128K1	106	HEATER COMPARTMENT	95	21	25R
128K2	106	HEATER COMPARTMENT	95	21	25R
161K1	107	LH POD – FWD	162	-10	52L
161K2	104	NO. 1 PDP			
161K3	102	NO. 1 PDP			
161K4	102	NO. 2 PDP			
161K5	106	NO. 1 PDP			
161K6	106	NO. 2 PDP			
161K7	116	NO. 1 PDP			
161K8	116	NO. 2 PDP			
161K9	103	NO. 1 PDP			
161K10	106	NO. 1 PDP			
232K1					
232K2	103	CONSOLE	57	-17	12L
232K3	103	CONSOLE			
234K1		OVERHEAD PANEL			
234K2	106	FWD TROOP WARN BOX – INSIDE	120	45	40L

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ELECTRICAL SYSTEM ELECTRICAL COMPONENT LOCATION AND CONFIGURATION LIST (Continued)

REF DESIG	PART NUMBER	TYPE	MATE WITH/LOCATION	STATION LOCATION FS	WL	BL
241K1		100	NO. 1 PDP			
241K2		100	NO. 2 PDP			
241K3		101	NO. 2 PDP			
241K4		106	NO. 2 PDP			
241K5		101	NO. 1 PDP			
031P36	MS3476W14-19S	21	CONSOLE, AFCS CONT, J2			
054P1	MS3476W14-10S	48	CPLT INSTR PNL, ROTOR TACH			
054P2	MS3476W14-10S	48	PLT INSTR PNL, ROTOR TACH			
062P1	115785-01	61	CPLT INSTR PNL, ATTITUDE IND			
062P2	115785-01	61	PLT INSTR PNL, ATTITUDE IND			
063P2	MS3476W18-32S	25	OVHD PNL, COMPASS CONT			
066P1	MS27473T22B2S	7	PLT INSTR PNL, HSI IND			
066P2	MS27473T22B2S	7	CPLT INSTR PNL, HSI IND			
066P4	M83723-75A24616	43	PLT INSTR PNL, HSI MODE SEL			
066P7	M83723-75A24616	43	CPLT INSTR PNL, HSI MODE SEL			
084P1	MS3456W14S-5S	49	ELECTRONICS COMP, OVHD, FAN	110	40	15L
102P6	MS3476W14-19S	21	OVHD PNL, ENG COND PNL			
111P1	MS3456W12S-3S	47	PYLON, TOP ANTI COL LT	590	140	0
111P2	MS3456W12S-3S	47	BOTTOM FUSELAGE, BOT ANTI COL LT	290	-40	0
121J1	MS90335-3	152	RDR ALT DIM CONT PNL			
121P1	AN3116-2	3	CTR INSTR PNL, TOP, STANDBY COMP			
122J1	MS90335-3	152	RDR ALT DIM CONT PNL			
123J1	MS90335-3	152	FIRE HANDLE WARN PNL			
123J2	MS90335-3	152	MASTER CAUTION CNTR			
125J1	MS90335-3	152	FUEL CONTROL PANEL			
125J2	MS90335-3	152	CPLT/OVHD LTG PANEL			
125J3	MS90335-3	152	PLT/CTR INSTR LTG PANEL			
125J4	MS90335-3	152	EXTERIOR LTG PANEL			
125J5	MS90335-3	152	INTERIOR LTG PANEL			
125J6	MS90335-3	152	ENGINE START PANEL			
125J7	MS90335-3	152	ANTI ICE PANEL			
125J8	MS90335-3	152	CTR CSL LGT PANEL			
125J9	MS90335-3	152	HYD POWER PANEL			
125J10	MS90335-3	152	ELEC PWR PANEL			
125J11	MS90335-3	152	TROOP WARN/HEAT PNL			
131J1	UR101F	56	LH FWD CABIN 28 VDC UTILITY RCPT	260	5	50L
131J2	UR101F	56	RH FWD CABIN 28 VDC UTILITY RCPT	260	5	50R
131J3	UR101F	56	LH FWD CABIN 28 VDC UTILITY RCPT	260	5	50L
131J4	UR101F	56	RH FWD CABIN 28 VDC UTILITY RCPT	260	5	50R
131J5	UR101F	56	LH FWD CABIN 28 VDC UTILITY RCPT	260	5	50L
131J6	UR101F	56	RH FWD CABIN 28 VDC UTILITY RCPT	260	5	50R
131J7	UR101F	56	LH AFT CABIN 28 VDC UTILITY RCPT	360	5	50L
131J8	UR101F	56	RH AFT CABIN 28 VDC UTILITY RCPT	360	5	50R
131J9	UR101F	56	LH AFT CABIN 28 VDC UTILITY RCPT	360	5	50L
131J10	UR101F	56	RH AFT CABIN 28 VDC UTILITY RCPT	360	5	50R
131J11	UR101F	56	LH AFT CABIN 28 VDC UTILITY RCPT	360	5	50L
131J12	UR101F	56	RH AFT CABIN 28 VDC UTILITY RCPT	360	5	50R
131J13	MS3454W14S-2S	48	LH CABIN, 3 PH UTILITY RCPT	320	20	50L
131J14	MS25199-1	5	LH CABIN, 1 PH UTILITY RCPT	320	20	50L
131J15	MS25199-1	5	RH CABIN, 1 PH UTILITY RCPT	320	20	50R
131J16	MS3454W14S-2S	48	RH CABIN, 3 PH UTILITY RCPT	320	20	50R
131J17	UR101F	56	NO. 1 PDP, 28 VDC UTILITY RCPT			
131J18	UR101F	56	NO. 2 PDP, 28 VDC UTILITY RCPT			
134P2	MS3476W14-19SW	21	OVHD PNL, HOIST/CARGO HOOK			
137P2	MS3476W16-23S	23	CONSOLE, POWER STEERING CONT			
140J7	MS3474W16-8S	22	LH FWD CABIN	160	30	50L
140P7	MS3476W16-8P	22	LH FWD CABIN	160	30	50L
147P1	MS3476W14-19S	21	CONSOLE, XM 130 DISP CONT			
161J1	AN2552-3A	1	LH POD, DC EXT PWR RCPT	160	-10	60L
161P2	MS3476W14-5S	18	LH POD, BATT CHARGR	184	-15	65L
161P3	MS3456W20-17S	55	LH POD, NO. 1 XFMR/RECT	175	-10	65L
161P4	MS3456W20-17S	55	RH POD, NO. 2 XFMR/RECT	175	-10	65R
161P5	MS25182-2	4	LH POD, BATT DISCONNECT	178	-25	65L
161P6	MS3476W12-10P	17	LH POD, BATT TEMP DISC	178	-27	65L
161P7	MS3476W20-16P	57	LH POD, BATT CHRGR	175	-10	65L
175P1	M83723-75A1624N	35	CTR INSTR PNL, FUEL FLOWING			
181P1	MS27473T18B32S	58	CONSOLE, RT 1167/ARC-164			
182P1	MS2748T18B32S	58	CONSOLE, RT ARC-186, NO. 1 VHF			
182P4	MS2748T18B32S	58	CONSOLE, RT ARC-186, NO. 2 VHF			
182P19	MS3476W12-10S	17	CONSOLE, KY28 CONT PNL			
184P5	MS3476W20-39S	59	CONSOLE, HF ARC-102 CONT			
185P1	MS27473T18B35S	60	CONSOLE, RT-2585 APX100 IFF			
187P26	M28748/6-G30L1A	62	CONSOLE, CPLT INTPH CONT PNL			
187P27	M28748/6-G30L1A	62	CONSOLE, PLT INTPH CONT PNL			
187P30	M28748/6-G30L1A	62	CONSOLE, TRP COMM INTPH CONT PNL			
191P7	MS3476W14-19S	21	CONSOLE, ADF CONT PNL			
192P1	M24308/2-5	63	CONSOLE, VOR/LOC/GS/MKR BCN CONT PNL			

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ELECTRICAL SYSTEM ELECTRICAL COMPONENT LOCATION AND CONFIGURATION LIST (Continued)

REF DESIG	PART NUMBER	TYPE	MATE WITH/LOCATION	STATION LOCATION FS	WL	BL
195P1	MS2473T10B35S	6	PLT INSTR PNL, RAD ALT, RT-APN-209			
195P5	MS27484T12B35S	8	CPLT INSTR PNL, RAD ALT, RT-APN-209			
196P1	MS3476W16-26S	24	CPLT INSTR PNL, AIMS ALT			
196P2	MS3476W16-26S	24	PLT INSTR PNL, AIMS ALT			
197P5	MS27484T20B16S	64	CONSOLE, ASN 128, DOPPLER			
201P2	M24308/2-3	6	CONSOLE, RADAR WARNING, APR-39			
202P4	MS3476W14-19S	21	CONSOLE, MISSILE DET CONT IND			
232P1	MS3476W20-41S	26	CTR INSTR PNL, MSTR CAUT PNL			
232P2	MS3476W16-26S	24	CTR INSTR PNL, MSTR CAUT PNL			
241J1	MS90362-3	10	LH POD FWD, EXT PWR RECPT			
241P1	M83723-95A1212N	31	AFT XMSN, NO. 1 GEN	580	60	18L
241P2	M83723-95A1212N	31	AFT XMSN, NO. 2 GEN	580	60	18R
241P3	MS3476W16-26S	24	NO. 1 PDP, GEN NO. 1 CNTCTR			
241P4	MS3476W16-26S	24	NO. 2 PDP, GEN NO. 2 CNTCTR			
241P5	MS3476W16-23S	23	NO. 2 PDP, APU GEN CNTCTR			
241P6	MS3476W10-06P	15	NO. 1 PDP, NO. 1 GEN CUR XFMR			
241P7	MS3476W10-06P	15	NO. 2 PDP, NO. 2 GEN CUR XFMR			
241P8	MS3476W18-32S	25	LH POD — FWD, NO. 1 GEN CONT	160	-10	60L
241P9	MS3476W18-32S	25	RH POD — FWD, NO. 2 GEN CONT	175	-10	65R
241P10	MS3476W18-32S	25	RH POD FWD, APU GEN CONT	170	-10	65R
241P11	MS3476W16-23S	23	NO. 1 PDP, EXT PWR CNTCTR			
241P12	MS3476W12-10S	17	LH POD FWD EXT PWR MON	160	-10	60L
300J1	M83723-74A2041N	40	NO. 1 PDP			
300P1	M83723-75A2041N	40	NO. 1 PDP			
300J2	M83723-74A2255N	42	NO. 1 PDP			
300P2	M83723-75A2255N	42	NO. 1 PDP			
300J3	M83723-74A22556	42	NO. 1 PDP			
300P3	M83723-75A22556	42	NO. 1 PDP			
300J4	M83723-74A2461N	43	NO. 1 PDP			
300P4	M83723-75A2461N	43	NO. 1 PDP			
300J5	M83723-74A2041N	40	NO. 2 PDP			
300P5	M83723-75A2041N	40	NO. 2 PDP			
300J6	M83723-74A24616	43	NO. 2 PDP			
300P6	M83723-75A24616	43	NO. 2 PDP			
300J7	M83723-74A2255N	42	NO. 2 PDP			
300P7	M83723-75A2255N	42	NO. 2 PDP			
300J8	M83723-74A2461N	42	NO. 2 PDP			
300P8	M83723-75A2461N	42	NO. 2 PDP			
300J11	M83723-73A2255N	42	CONSOLE, UNDERFLOOR DISC			
300P11	M83723-76A2255N	42	CONSOLE, UNDERFLOOR DISC			
300J17	M83723-74A2255N	42	CONSOLE, UNDERFLOOR DISC			
300P17	M83723-75A2255N	42	CONSOLE, UNDERFLOOR DISC			
300J18	M83723-73A2041N	40	OVERHEAD PANEL — COCKPIT			
300P18	M83723-76A2041N	40	OVERHEAD PANEL — COCKPIT			
300J19	M83723-73A2041N	40	OVERHEAD PANEL — COCKPIT			
300P19	M83723-76A2041N	40	OVERHEAD PANEL — COCKPIT			
300J20	M83723-74A2461N	43	OVERHEAD PANEL — COCKPIT			
300P20	M83723-75A2461N	43	OVERHEAD PANEL — COCKPIT			
300J21	M83723-74A2461N	43	OVERHEAD PANEL — COCKPIT			
300P21	M83723-75A2461N	43	OVERHEAD PANEL — COCKPIT			
300J22	M83723-73A20416	40	OVERHEAD PANEL — COCKPIT			
300P22	M83723-76A20416	40	OVERHEAD PANEL — COCKPIT			
300J23	M83723-74A2255N	42	OVERHEAD PANEL — COCKPIT			
300P23	M83723-75A2255N	42	OVERHEAD PANEL — COCKPIT			
300J25	MS3474W16-26S	24	COCKPIT UNDERFLOOR, PLT SIDE	70	-20	12R
300P25	MS3474W16-26P	24	COCKPIT UNDERFLOOR, PLT SIDE	70	-20	12R
300J26	MS3474W16-26S	24	COCKPIT UNDERFLOOR, CPLT SIDE	70	-30	40L
300J40	M83723-73A1415N	34	LH CABIN	222	-5	52L
300P40	M83723-76A1415N	34	LH CABIN	222	-5	52L
300J41	M83723-73A1415N	34	RH CABIN	245	-5	52R
300P41	M83723-76A1415N	34	RH CABIN	245	-5	52R
300J44	M83723-74A2461N	43	PYLON	528	72	18L
300P44	M83723-75A2461N	43	PYLON	528	72	18L
300J45	M83723-73A2461N	43	HEATER COMPARTMENT	105	40	30R
300P45	M83723-76A2461N	43	HEATER COMPARTMENT	105	40	30R
300J47	M83723-74A2461N	43	HEATER COMPARTMENT	105	40	30R
300P47	M83723-75A2461N	43	HEATER COMPARTMENT	105	40	30R
300J48	M83723-74A2461N	43	ELECTRONICS COMPARTMENT	105	40	20L
300P48	M83723-75A2461N	43	ELECTRONICS COMPARTMENT	105	40	20L
300J51	M83723-74A2461N	43	AFT CROWN — OVHD	460	45	20R
300P51	M83723-75A2461N	43	AFT CROWN — OVHD	460	45	20R
300J52	M83723-74A2255N	42	AFT CROWN — OVHD	460	45	30L
300P52	M83723-75A2255N	42	AFT CROWN — OVHD	460	45	30L
300J53	M83723-74A2255N	42	AFT CROWN — OVHD	460	45	20R
300P53	M83723-75A2255N	42	AFT CROWN — OVHD	460	45	20R
300J55	M83723-73A2255N	42	ELECTRONICS COMPARTMENT	105	40	20L
300P55	M83723-76A2255N	42	ELECTRONICS COMPARTMENT	105	40	20L
300J56	M83723-73A2255N	42	HEATER COMPARTMENT	105	40	25R
300P56	M83723-76A2255N	42	HEATER COMPARTMENT	105	40	25R
300J58	M83723-73A22558	42	CONSOLE, UNDERFLOOR DISC			
300P58	M83723-76A22558	42	CONSOLE, UNDERFLOOR DISC			
300J61	M83723-73A24619	43	CONSOLE, UNDERFLOOR DISC			
300P61	M83723-76A24619	43	CONSOLE, UNDERFLOOR DISC			
300J68	M83723-73A22556	42	HEATER COMPARTMENT	105	40	25R
300P68	M83723-76A22556	42	HEATER COMPARTMENT	105	40	25R

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ELECTRICAL SYSTEMS ELECTRICAL COMPONENT
LOCATION AND CONFIGURATION LIST (Continued)

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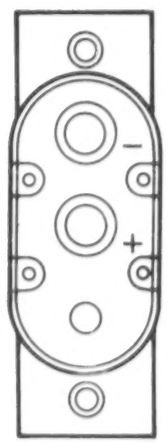

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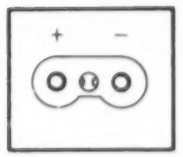

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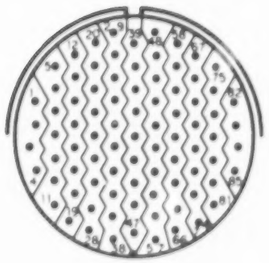

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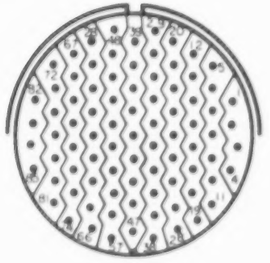

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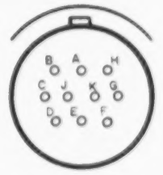

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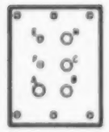

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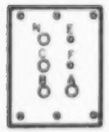

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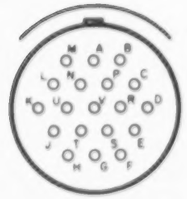

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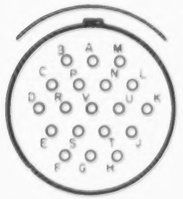

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ELECTRICAL SYSTEMS ELECTRICAL COMPONENT LOCATION AND CONFIGURATION LIST (Continued)

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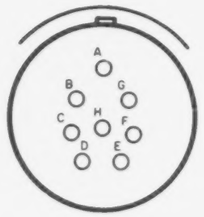

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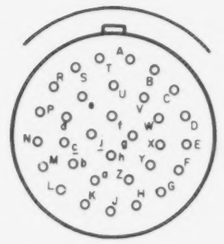

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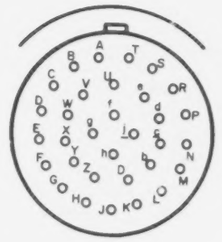

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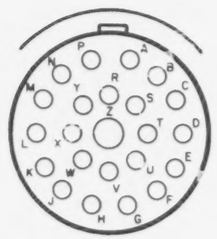

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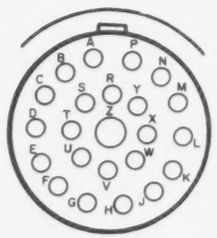

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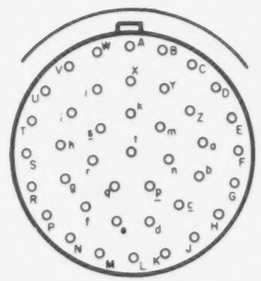

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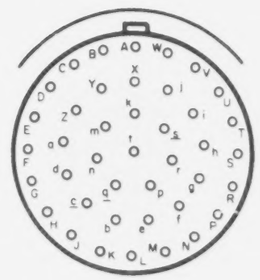

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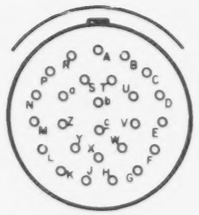

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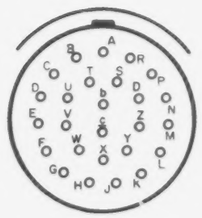

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ELECTRICAL SYSTEMS ELECTRICAL COMPONENT
LOCATION AND CONFIGURATION LIST (Continued)

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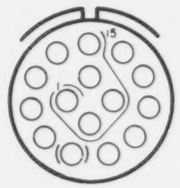

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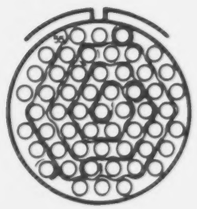

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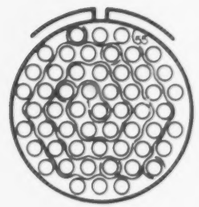

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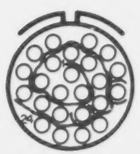

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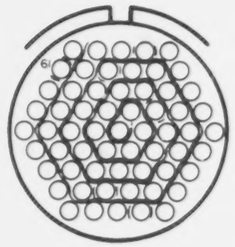

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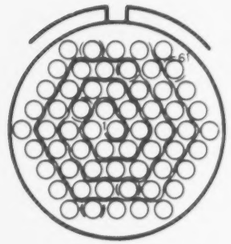

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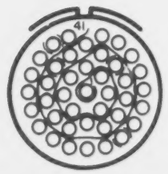

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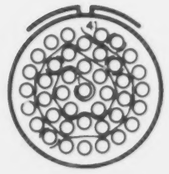

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ELECTRICAL SYSTEMS ELECTRICAL COMPONENT
LOCATION AND CONFIGURATION LIST (Continued)

RECEPTACLE

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PLUG

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RECEPTACLE

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PLUG

RECEPTACLE

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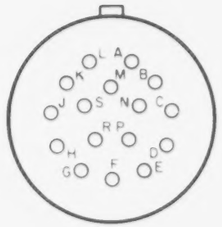
RECEPTACLE



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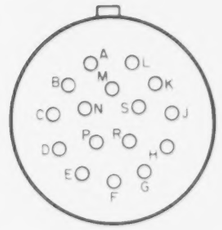

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PLUG

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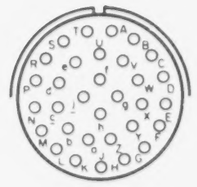

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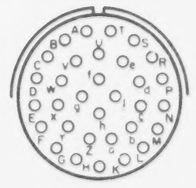

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D145-11858-1 SPA

ELECTRICAL SYSTEMS ELECTRICAL COMPONENT LOCATION AND CONFIGURATION LIST (Continued)

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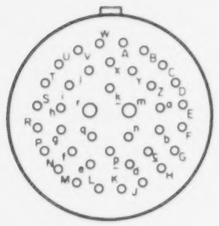

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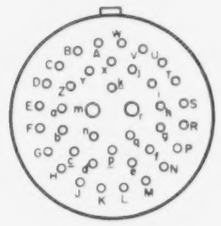

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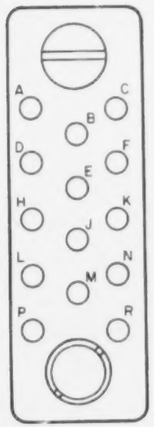

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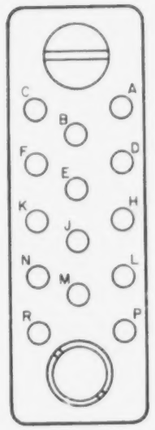

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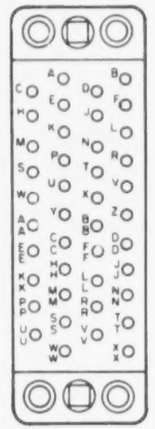

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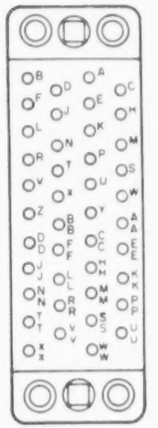

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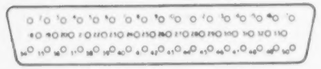

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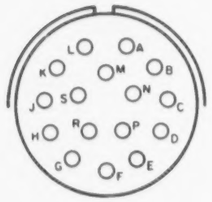

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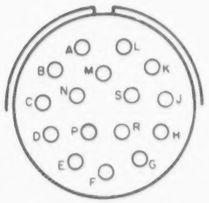

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D145 11859 SPA

ELECTRICAL SYSTEM ELECTRICAL COMPONENT LOCATION AND CONFIGURATION LIST (Continued)

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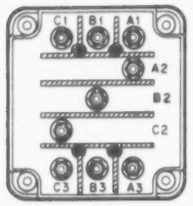

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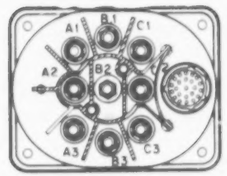

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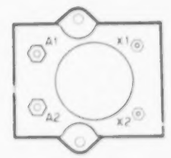

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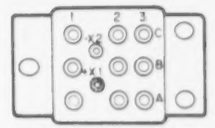

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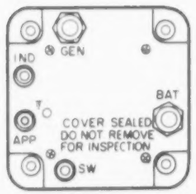

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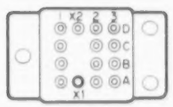

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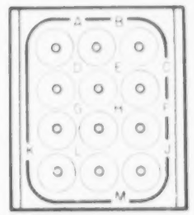
MODULE



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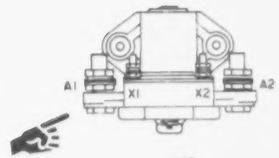

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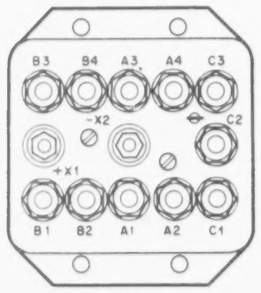

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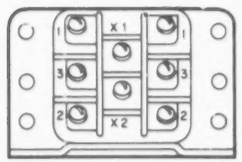

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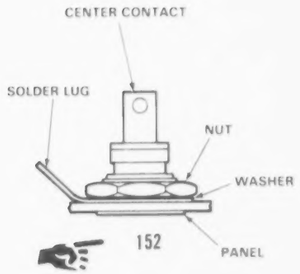

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9-1 DC POWER SYSTEM

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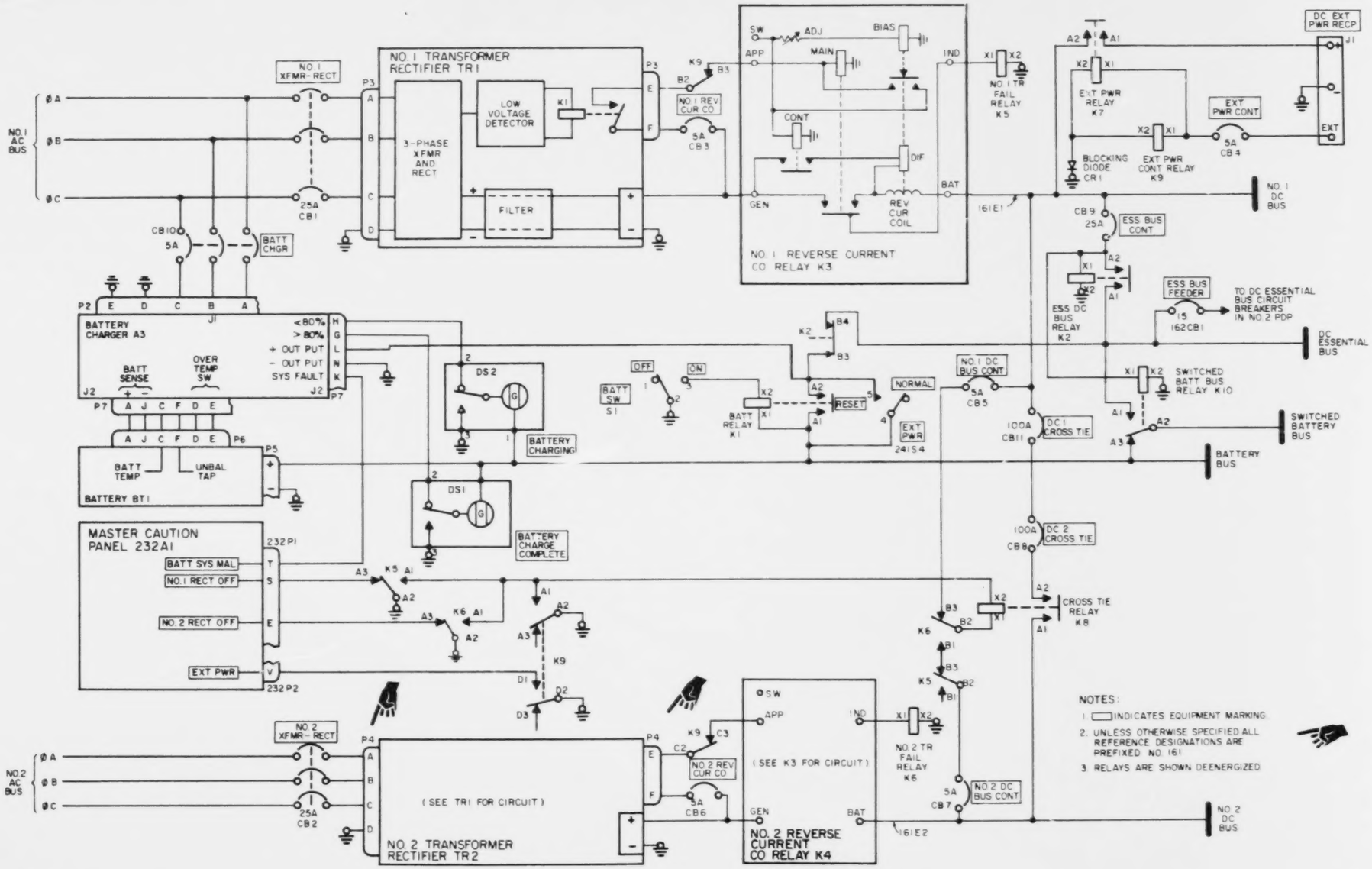
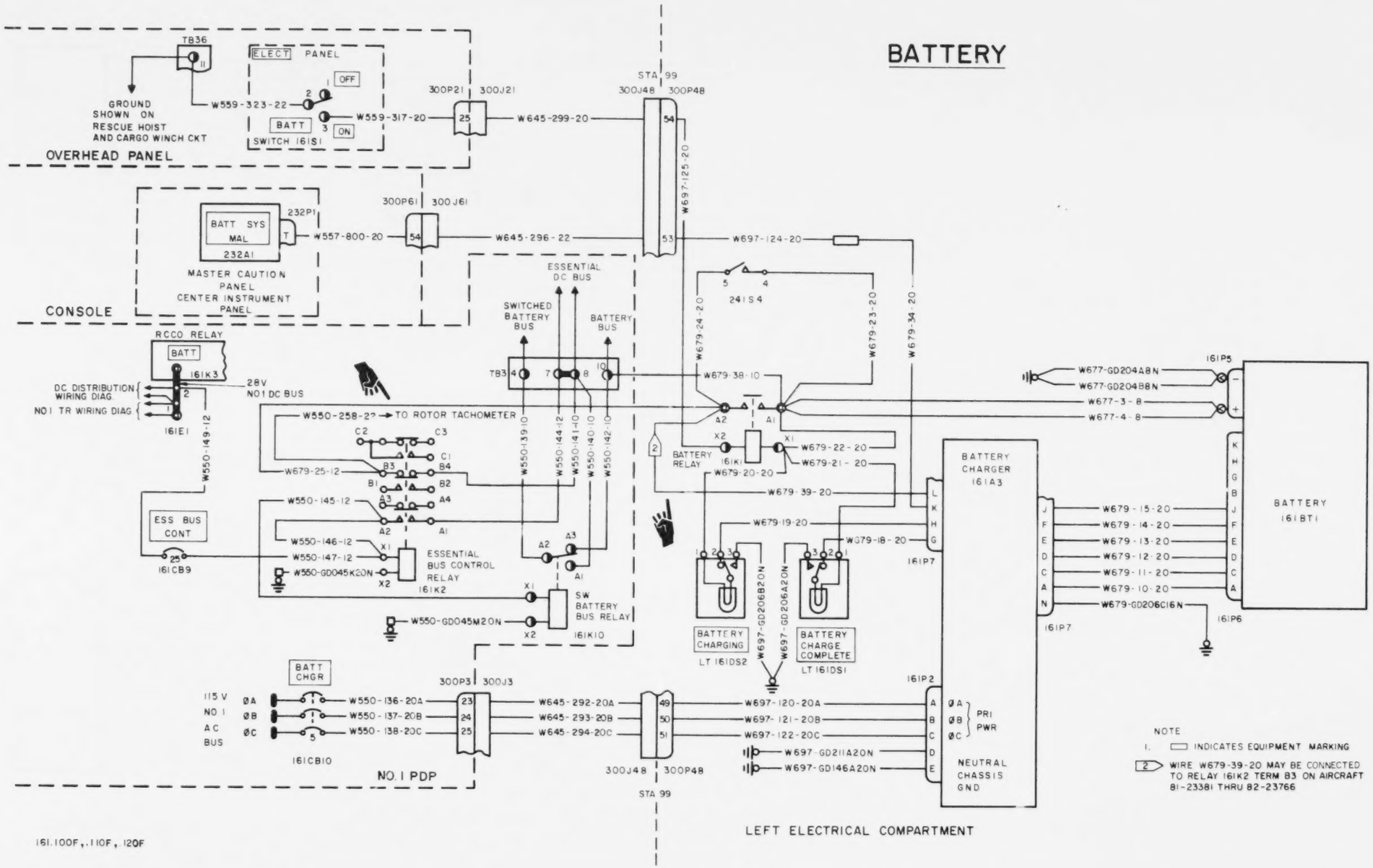

NO.1 AC BUS
ØA
ØB
ØC
NO.1 XFMR-RECT
25A CB1
CB10 5A
BATT CHGR
NO.1 TRANSFORMER RECTIFIER TR1
3-PHASE XFMR AND RECT
LOW VOLTAGE DETECTOR
K1
FILTER
K9
NO.1 REV CUR CO
5A CB3
NO.1 REVERSE CURRENT CO RELAY K3
SW
ADJ
BIAS
APP
MAIN
CONT
DIF
REV CUR COIL
IND
BAT
GEN
NO.1 TR FAIL RELAY K5
DC EXT PWR RECP
J1
EXT PWR RELAY K7
EXT PWR CONT
EXT PWR CONT RELAY K9
5A CB4
BLOCKING DIODE CR1
NO.1 DC BUS
CB9 25A
ESS BUS CONT
ESS DC BUS RELAY K2
ESS BUS FEEDER
TO DC ESSENTIAL BUS CIRCUIT BREAKERS IN NO.2 PDP
15 162CB1
DC ESSENTIAL BUS
SWITCHED BATT BUS RELAY K10
SWITCHED BATTERY BUS
BATTERY BUS
BATTERY CHARGER A3
<80% >80% + OUT PUT - OUT PUT SYS FAULT
BATT SENSE
OVER TEMP SW
BATT TEMP
UNBAL TAP
BATTERY BT1
DS2
DS1
BATTERY CHARGING
BATTERY CHARGE COMPLETE
BATT SW S1
OFF
ON
BATT RELAY K1
RESET
NORMAL
EXT PWR
241S4
NO.1 DC BUS CONT
5A CB5
100A CB11
DC 1 CROSS TIE
100A CB8
DC 2 CROSS TIE
CROSS TIE RELAY K8
MASTER CAUTION PANEL 232A1
BATT SYS MAL
NO.1 RECT OFF
NO.2 RECT OFF
EXT PWR
232P1
232P2
K5 A1
K6 A1
K9
NO.2 AC BUS
NO.2 XFMR-RECT
25A CB2
(SEE TR1 FOR CIRCUIT)
NO.2 TRANSFORMER RECTIFIER TR2
NO.2 REV CUR CO
5A CB6
(SEE K3 FOR CIRCUIT)
NO.2 REVERSE CURRENT CO RELAY K4
NO.2 TR FAIL RELAY K6
NO.2 DC BUS CONT
5A CB7
NO.2 DC BUS
161E1
161E2
NOTES:
1. INDICATES EQUIPMENT MARKING
2. UNLESS OTHERWISE SPECIFIED ALL REFERENCE DESIGNATIONS ARE PREFIXED NO. 161
3. RELAYS ARE SHOWN DEENERGIZED
559



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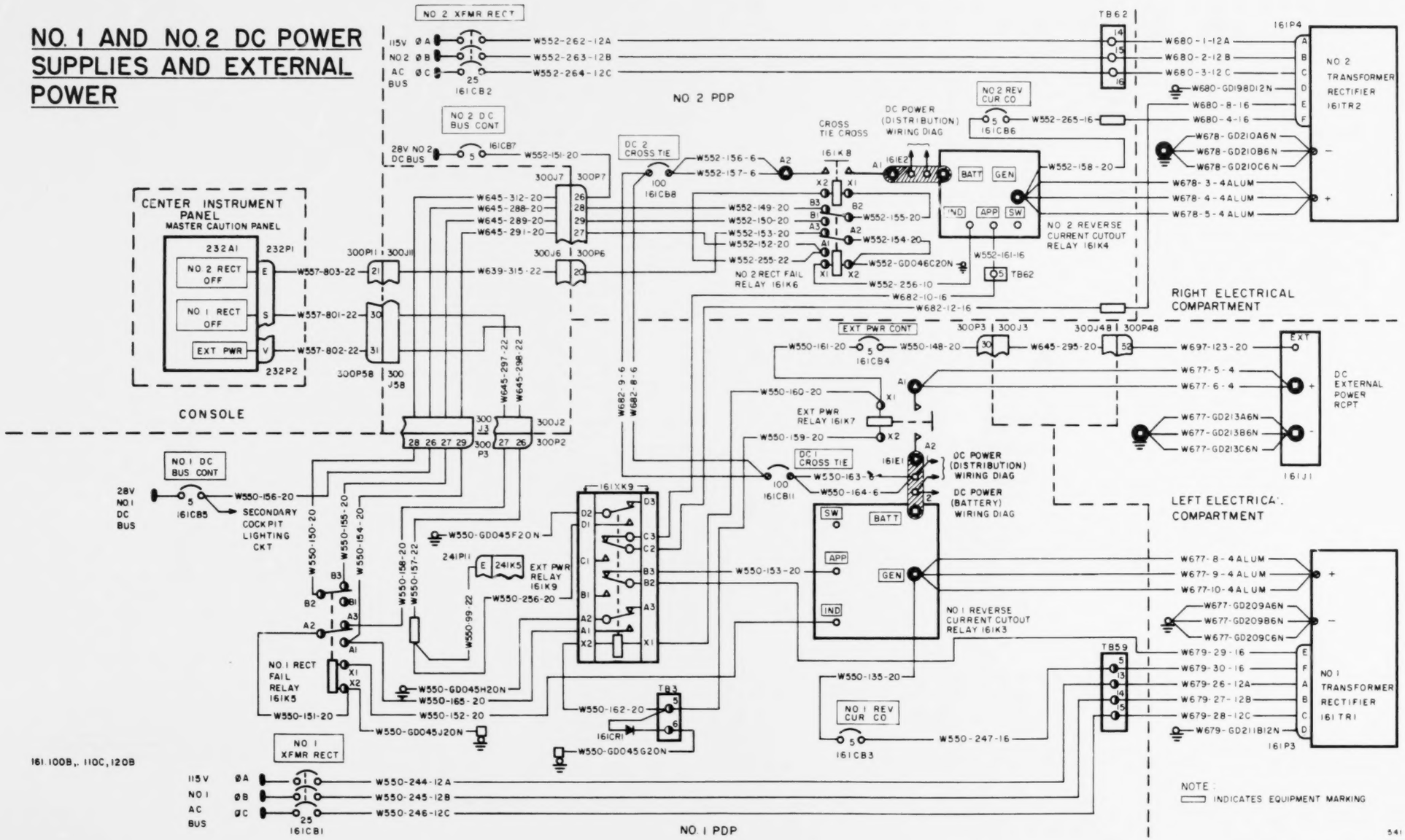
9-1.2 DC POWER SYSTEM WIRING DIAGRAM (Continued)



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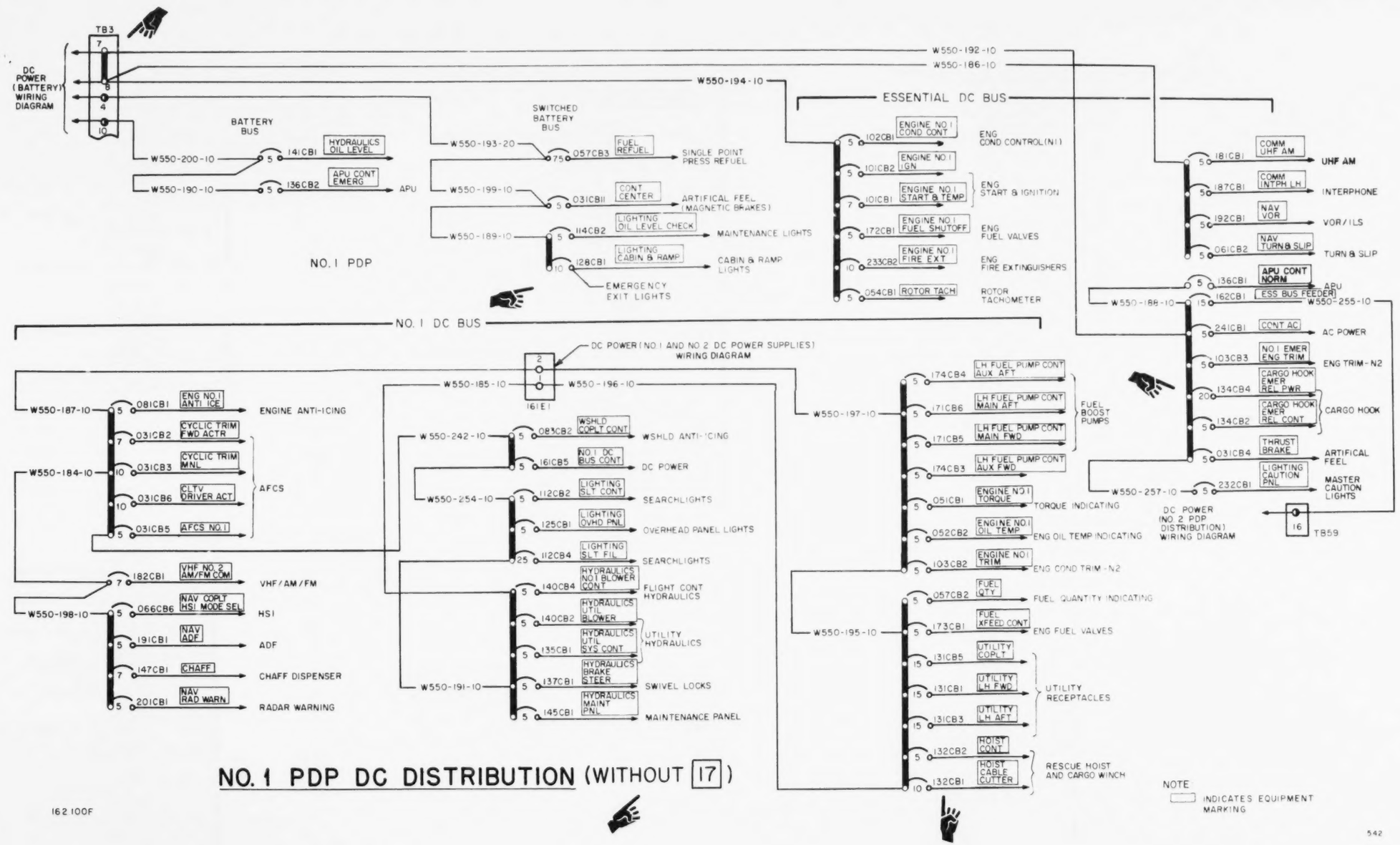

NO. 1 PDP DC DISTRIBUTION (WITHOUT [17])

162 100F

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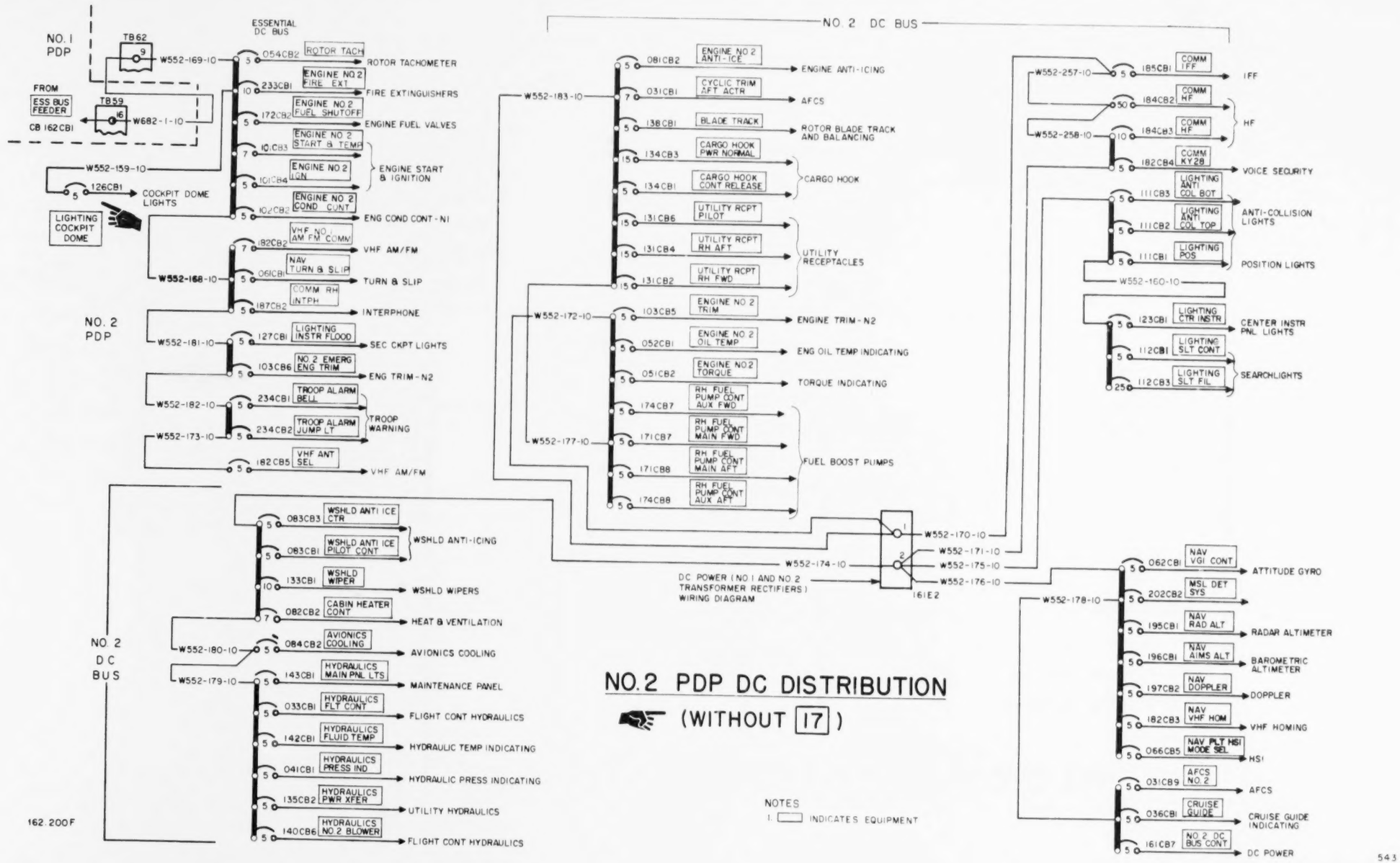

NO. 2 PDP DC DISTRIBUTION

(WITHOUT 17)

NOTES
1. ☐ INDICATES EQUIPMENT

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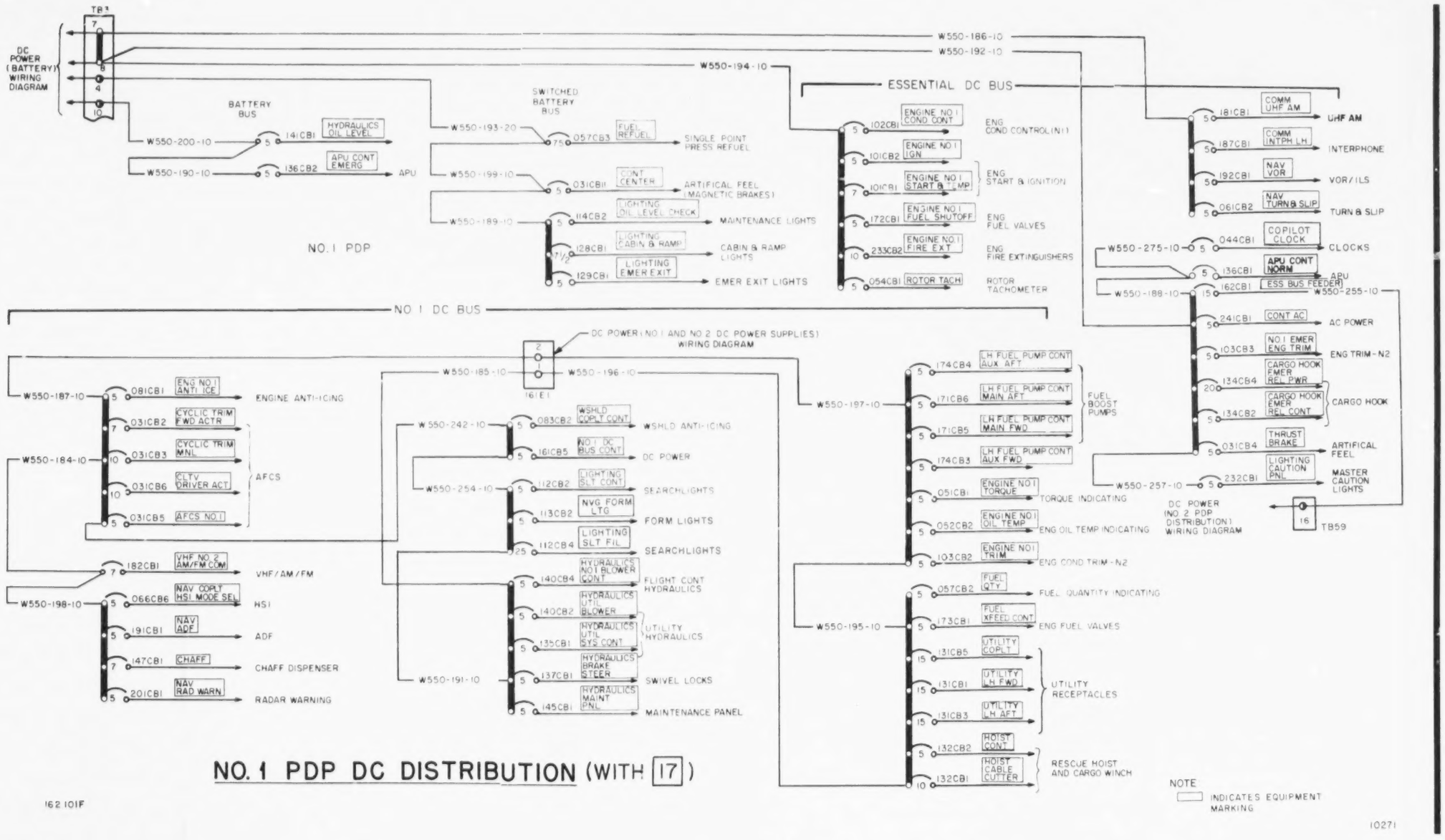

NO. 1 PDP DC DISTRIBUTION (WITH 17)

162 101F

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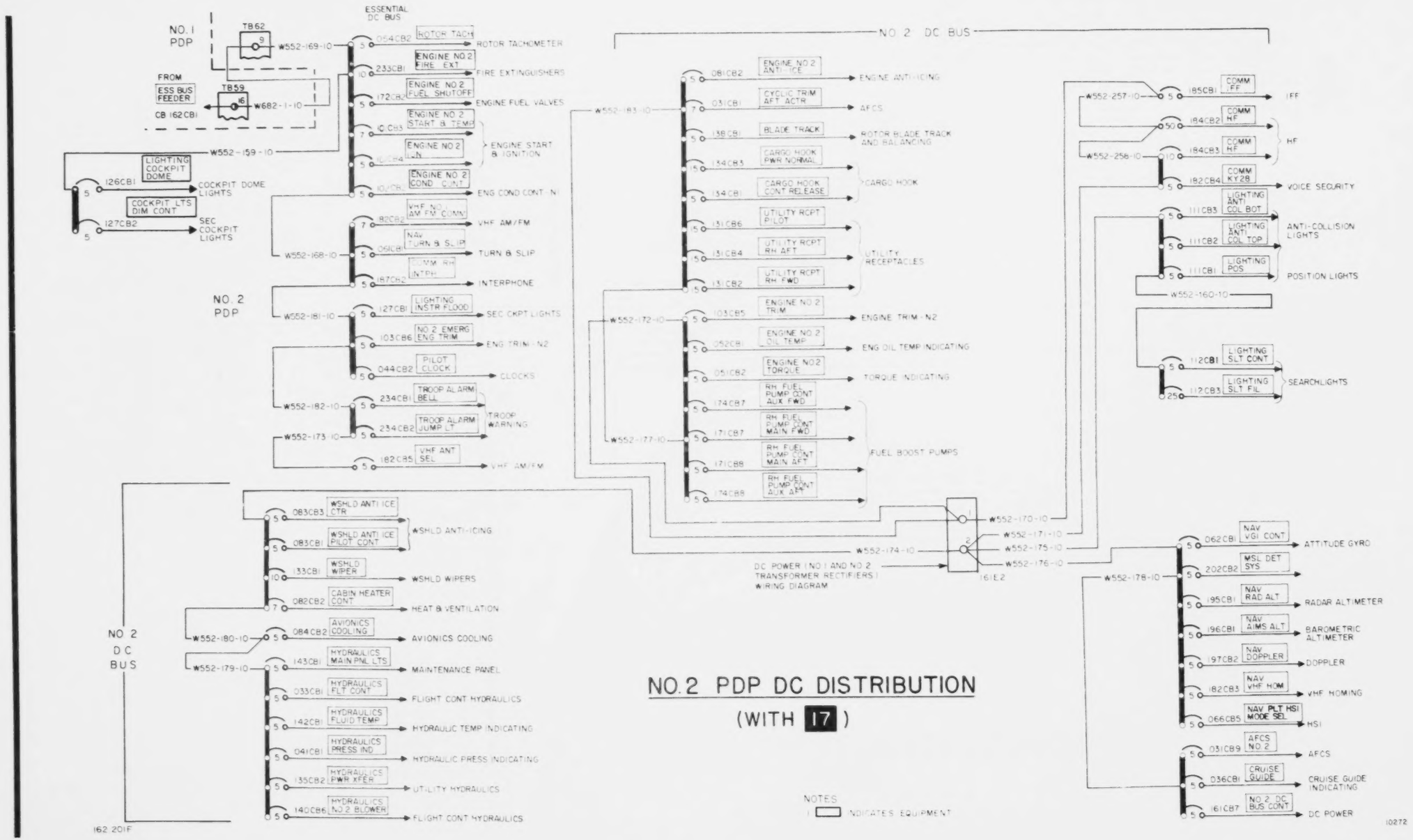

NO.2 PDP DC DISTRIBUTION (WITH 17)

NOTES
1 ▭ INDICATES EQUIPMENT

END OF TASK

9-1.3 DC POWER SYSTEM VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

Personnel Required:
68F10 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Left and Right Electrical Compartment Access Doors Open
EXT PWR DC-AC Access Cover Open

TASK	RESULT
1. **Check No. 2 dc power supply (1).**	If No. 2 dc power supply is loose or damaged, tighten or replace it as required. If connector to supply is loose or damaged tighten or replace it as required. If wiring to connector or supply is loose or damaged, tighten or repair or replace it as required.
2. **Check dc external power receptacle (2).**	If receptacle (2) is loose or damaged, tighten or replace it as required.
3. **Check No. 1 dc power supply (3).**	If No. 1 dc power supply (3) is loose or damaged, tighten or replace it as required. If connector to supply is loose or damaged, tighten or repair it as required. If wiring to connector or supply is loose or damaged, tighten or repair or replace it as required.
4. **Check battery (4).**	If battery is loose or damaged, tighten or replace it as required. If connector to battery is loose or damaged tighten or replace it as required. If wiring to connector is loose or damaged, repair or replace it as required.
5. **Check battery connector (5).**	If connector is damaged, replace it. If wiring to connector is damaged, repair or replace it.
6. **Check battery charger (6).**	If charger (6) is loose or damaged, tighten or replace it as required. If connectors to charger are loose or damaged, tighten or replace them as required. If wiring to connectors is damaged, repair or replace it as required.
7. **Check battery relay (7).**	If relay (7) is loose or damaged, tighten or replace it as required. If wiring to relay is loose or damaged tighten or repair or replace it as required.

FOLLOW-ON MAINTENANCE:

None

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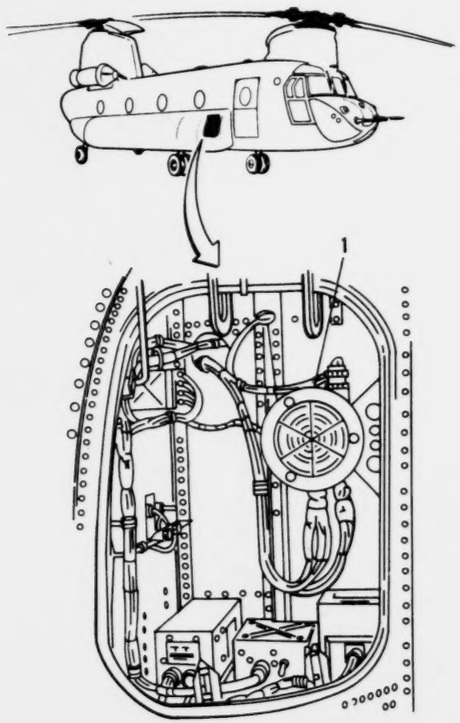
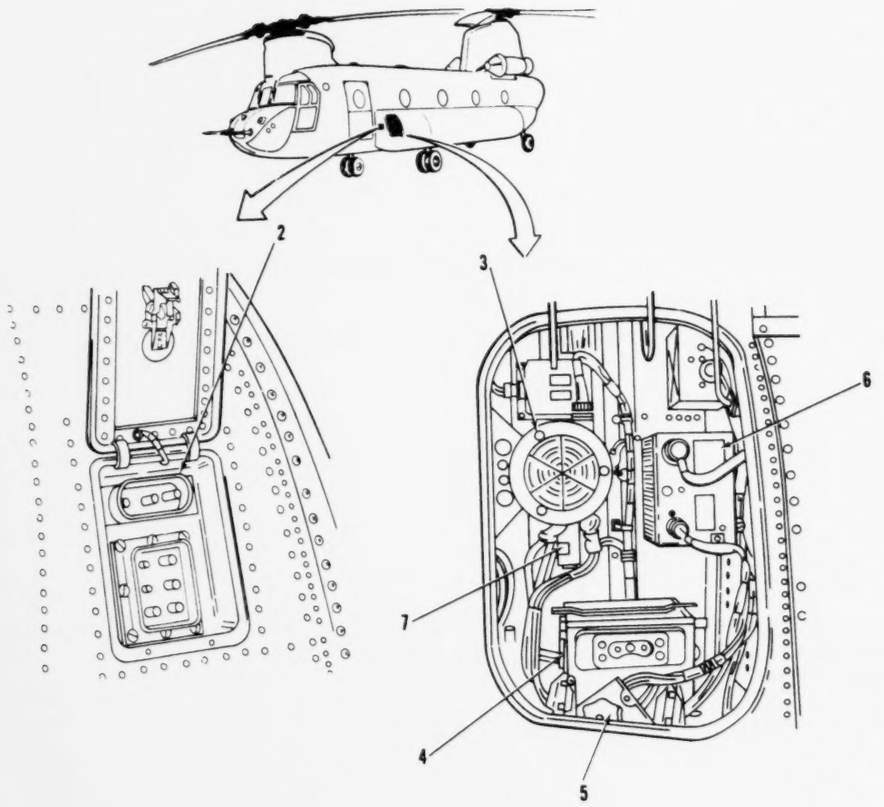
9-1.3 DC POWER SYSTEM VISUAL CHECK (Continued)





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END OF TASK

9-1.4 DC POWER SYSTEM OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
28VDC External Power Source

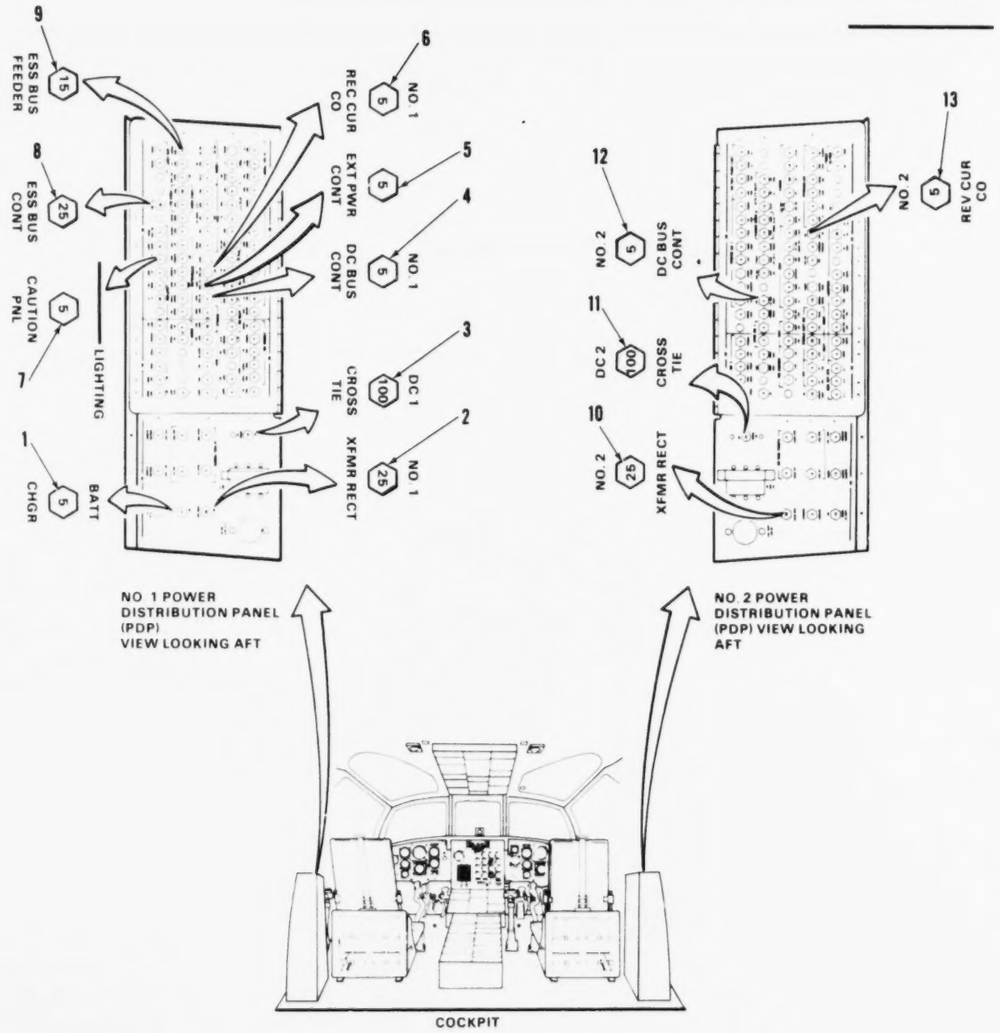
Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power Off
Hydraulic Power Off
Visual Check of Dc Power System
Performed (Task 9-1.3)

TASK	RESULT
CHECK CIRCUIT BREAKERS	
1. **Check** that **following circuit breakers on No. 1 pdp** are closed: BATT CHGR (1) NO. 1 XFMR RECT (2) DC 1 CROSSTIE (3) NO. 1 DC BUS CONT (4) EXT PWR CONT (5) NO. 1 REV CUR CO (6) CAUTION PNL (7) ESS BUS CONT (8) ESS BUS FEEDER (9)	If any circuit breaker (1 through 9) is open, close it.
2. **Check** that **following circuit breakers on No. 2 pdp** are closed: NO. 2 XFMR RECT (10) DC 2 CROSSTIE (11) NO. 2 DC BUS CONT (12) NO. 2 REV CUR CO (13)	If any circuit breaker (10, 11, 12, or 13) is open, closed it.



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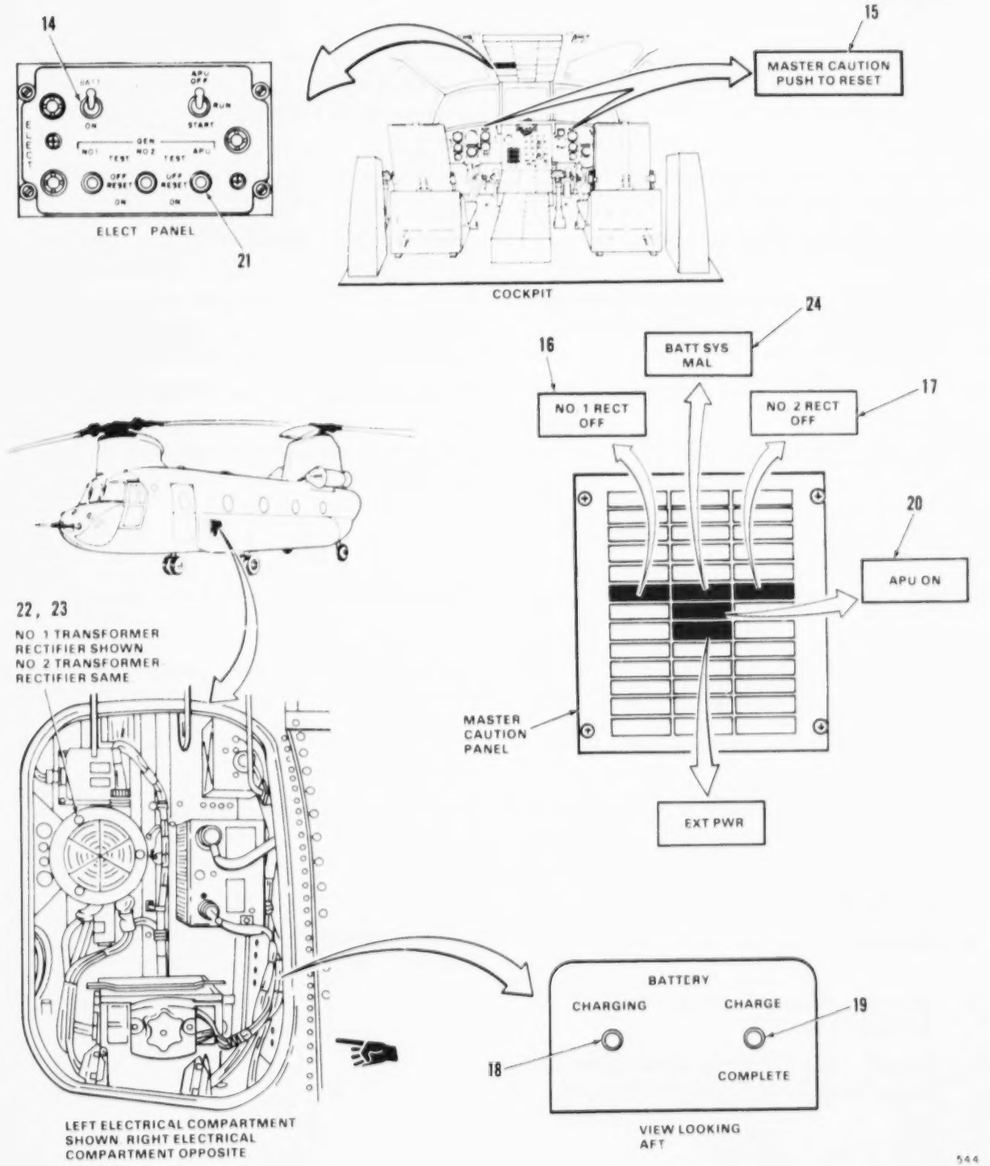
9-1.4 DC POWER SYSTEM OPERATIONAL CHECK (Continued)

TASK	RESULT
3. **Set BATT switch (14) to ON.**	MASTER CAUTION lights (15) shall come on. NO. 1 RECT OFF and NO. 2 RECT OFF capsules (16 and 17) shall be on. If lights do not come on, replace battery. Refer to TM 55-1520-240-23. If lights still do not come on, go to task 9-1.5. If either capsule (16 or 17) is not on, go to task 9-1.6.
4. **Press and release BATTERY CHARGING and CHARGE COMPLETE lights (18 and 19).**	Lights (18 and 19) shall momentarily come on. If either light does not come on, go to task 9-1.7.
5. **Start apu.** Refer to task 15-1.4.	APU ON capsule (20) shall come on.
6. **Set APU GEN switch (21) to ON.**	NO. 1 RECT OFF and NO. 2 RECT OFF capsules (16 and 17) shall go out. APU ON capsule (20) shall stay on. If capsules (16 and 17) are still on, go to task 9-2.5. If only NO. 1 RECT OFF capsule is still on, go to task 9-1.8. If only NO. 2 RECT OFF capsule is still on, go to task 9-1.9.
7. **Check BATT SYS MAL capsule (24).**	BATT SYS MAL capsule (24) shall be out. If it is on, open and then close BATT CHGR circuit breaker (1). If capsule (24) is still on, go to task 9-1.11.
8. **Check air flow from No. 1 transformer-rectifier (22).**	Air shall flow from rectifier (22). If not, replace rectifier.
9. **Check air flow from No. 2 transformer-rectifier (23).**	Air shall flow from rectifier (23). If not, replace rectifier.
10. **Check BATTERY CHARGING and CHARGE COMPLETE lights (18 and 19).**	Light (18 or 19) shall be on. If either light is not on, go to task 9-1.10.



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9-1.4 DC POWER SYSTEM OPERATIONAL CHECK (Continued)

TASK	RESULT
11. **Open NO. 1 REV CUR CO circuit breaker (6).**	NO. 1 RECT OFF capsule (16) shall come on. If it does not, replace NO. 1 reverse current cutout relay.
12. Turn top and bottom **anti collision lights ON.** Refer to task 9-6.3.	Both top and bottom anti collision lights shall flash. If they do not, go to task 9-1.12.
13. **Turn overhead panel lights ON.** Refer to task 9-11.3	Overhead panel lights shall come on. If they do not, go to task 9-1.13.
14. **Close NO. 1 REV CUR CO circuit breaker (6). Open NO. 2 REV CUR CO circuit breaker (13).**	NO. 1 RECT OFF capsule (16) shall go out. NO. 2 RECT OFF capsule (17) shall come on. If it does not, replace NO. 2 reverse current cutout relay.
15. **Check overhead panel lights.**	Overhead panel lights shall still be on. If they are out, go to task 9-1.14.
16. **Check anti collision lights.**	Anti collision lights shall still be on. If they are not, go to task 9-1.15.
17. **Turn off overhead panel lights.** Refer to task 9-11.3.	
18. **Close NO. 2 REV CUR CO circuit breaker (13).**	NO. 2 RECT OFF capsule (17) shall go out.
19. **Open NO. 1 REV CUR CO and NO. 2 REV CUR CO circuit breakers (6 and 13).**	NO. 1 and NO. 2 RECT OFF capsules (16 and 17) shall come on.
20. **Turn cabin and ramp white lights ON.** Refer to task 9-15.3.	Cabin and ramp white lights shall come on. If they do not, go to task 9-1.16.
21. **Close NO. 1 REV CUR CO and NO. 2 REV CUR CO circuit breakers (6 and 13).**	NO. 1 and NO. 2 RECT OFF capsule (16 and 17) shall go out.
22. **Disconnect electrical connector (27) from battery (28).**	
23. **Check cabin and ramp white lights.**	Cabin and ramp white lights shall stay on. Is they are not on, go to task 9-1.20.
23.1 **Connect electrical connector (27) to battery (28).**	
24. **Turn off cabin and ramp white lights.** Use CAB & RAMP LT switch. Refer to task 9-15.3.	

NOTE

Steps 25 through 27 can only be performed with an external 28VDC power source.

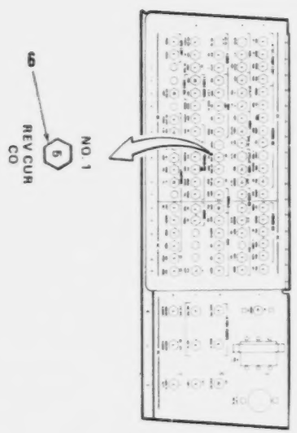
TASK	RESULT
25. **Connect external 28VDC power source to receptacle (25).** Turn on power supply.	NO. 1 and NO. 2 RECT OFF capsules (16 and 17) shall come on. EXT PWR capsule (26) shall come on. If capsule (16 or 17) is out, go to task 9-1.17. If capsule (26) does not come on, go to task 9-1.18.
26. **Check anti collision lights.**	Anticollision lights shall still be on. If they are not, go to task 9-1.19.
27. **Turn off** and **disconnect external 28VDC power.**	NO. 1 and NO. 2 RECT OFF capsules (16 and 17) shall go out. EXT PWR capsule (26) shall go out. If any capsule (16, 17, or 26) is still on, replace external power control relay.
28 **Turn off anti collision lights.** Refer to task 9-6.3.	
29. **Stop apu.** Refer to task 15-1.4.	

FOLLOW-ON MAINTENANCE:

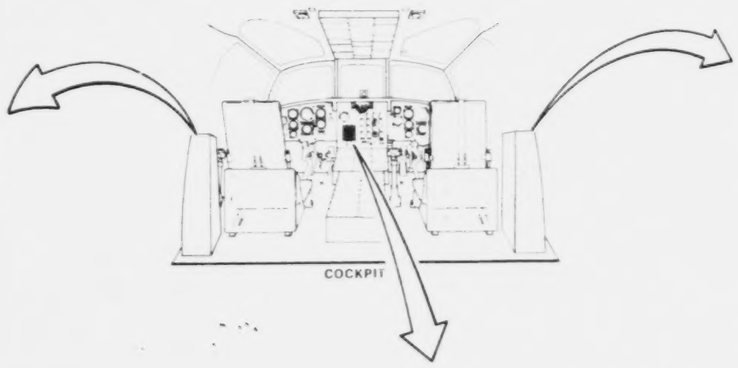
None

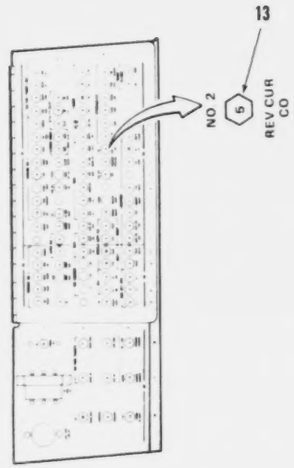
GO TO NEXT PAGE

9-1.4 DC POWER SYSTEM OPERATIONAL CHECK (Continued)

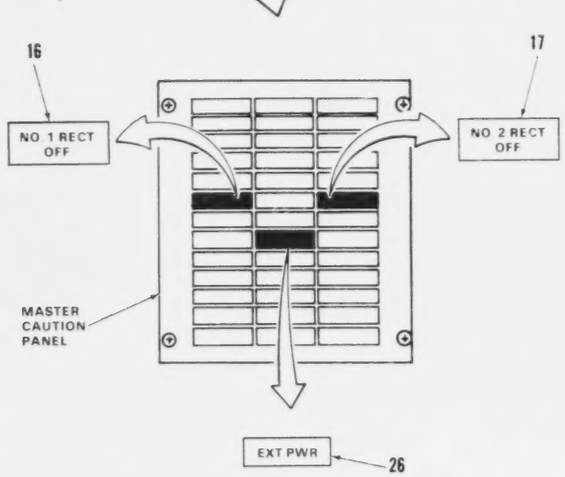


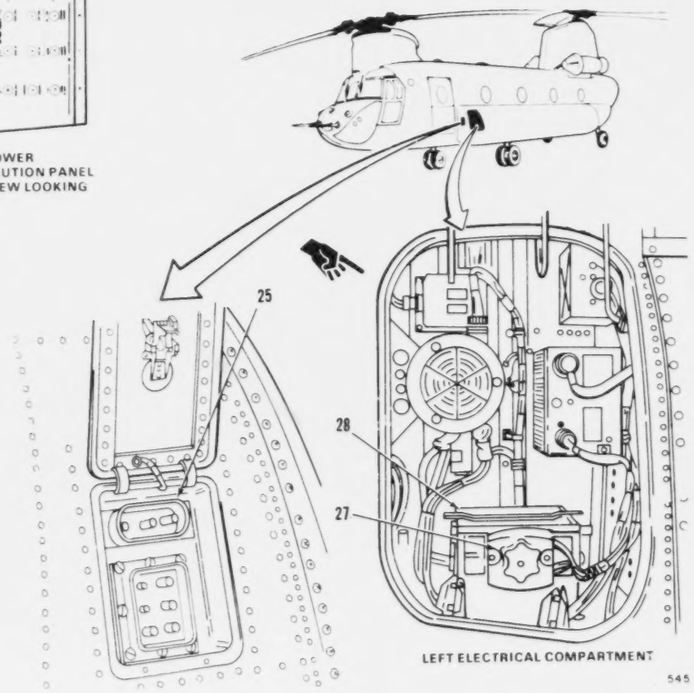
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT





NO. 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT





END OF TASK

9-1.5 MASTER CAUTION LIGHTS DO NOT COME ON WHEN BATTERY SWITCH SET TO ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

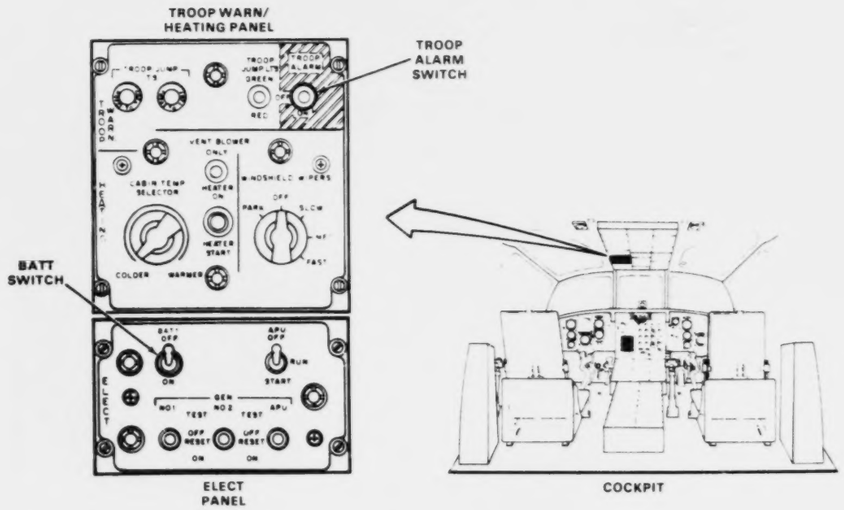
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Multimeter

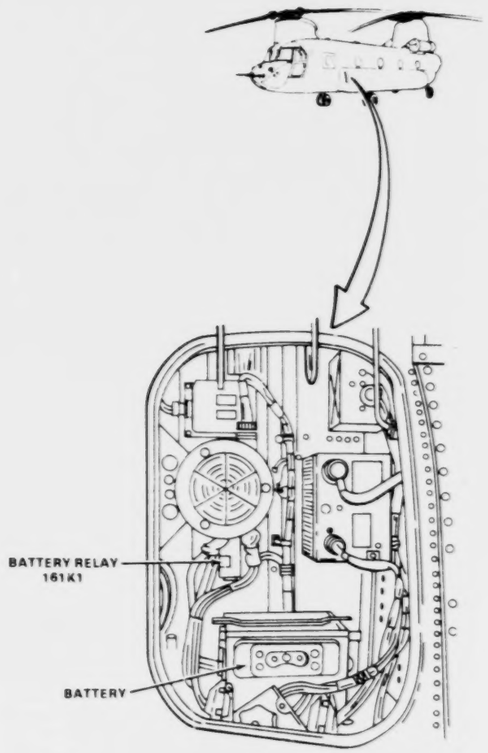
Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off





LEFT ELECTRICAL COMPARTMENT

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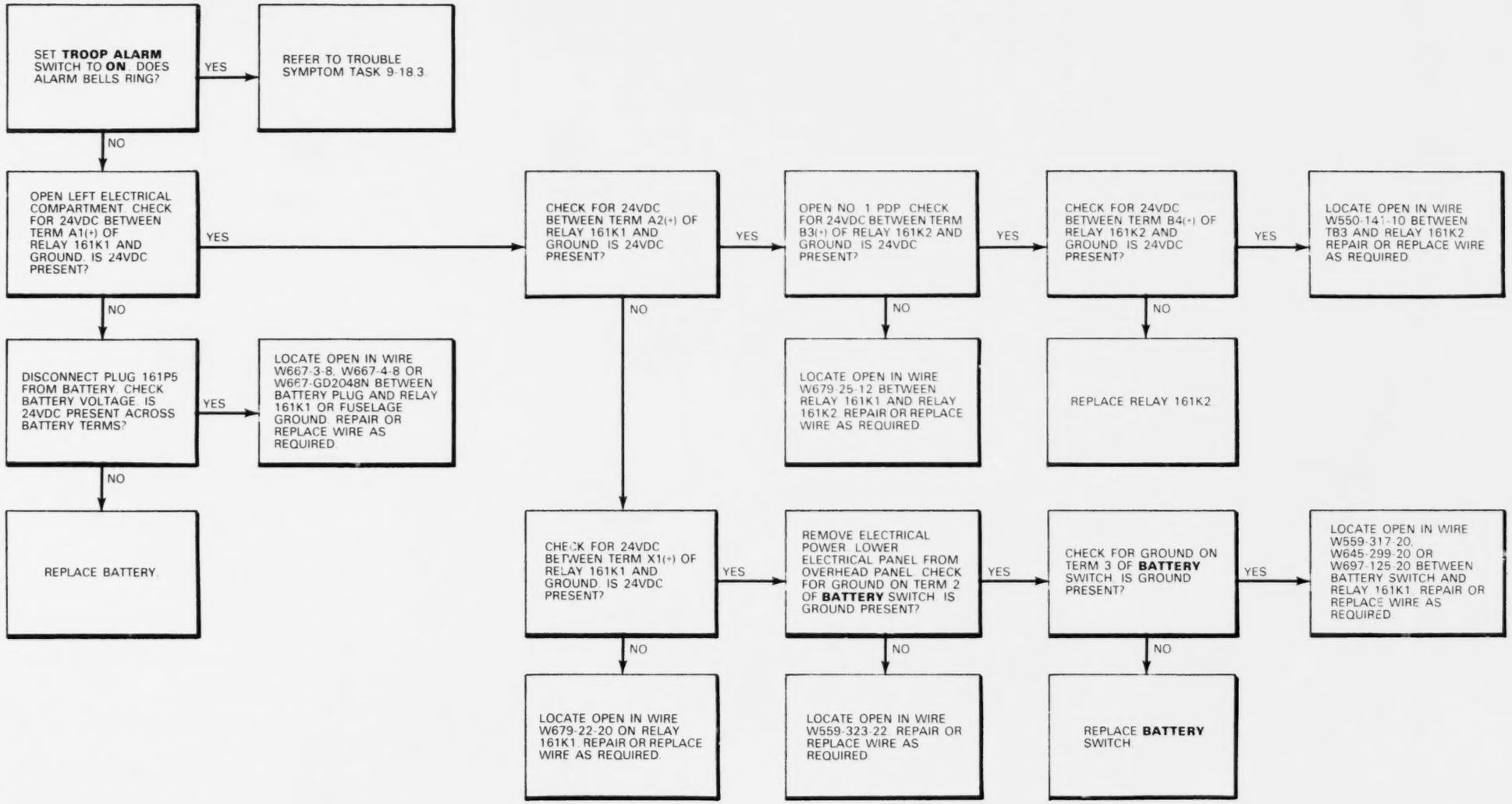
9-1.5 MASTER CAUTION LIGHTS DO NOT COME ON WHEN BATTERY SWITCH SET TO ON (Continued)


SET **TROOP ALARM** SWITCH TO **ON**. DOES ALARM BELLS RING?
YES
REFER TO TROUBLE SYMPTOM TASK 9-18.3.
NO
OPEN LEFT ELECTRICAL COMPARTMENT. CHECK FOR 24VDC BETWEEN TERM A1(+) OF RELAY 161K1 AND GROUND. IS 24VDC PRESENT?
YES
NO
DISCONNECT PLUG 161P5 FROM BATTERY. CHECK BATTERY VOLTAGE. IS 24VDC PRESENT ACROSS BATTERY TERMS?
YES
LOCATE OPEN IN WIRE W667-3-8, W667-4-8 OR W667-GD2048N BETWEEN BATTERY PLUG AND RELAY 161K1 OR FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE BATTERY.
CHECK FOR 24VDC BETWEEN TERM A2(+) OF RELAY 161K1 AND GROUND. IS 24VDC PRESENT?
YES
NO
CHECK FOR 24VDC BETWEEN TERM X1(+) OF RELAY 161K1 AND GROUND. IS 24VDC PRESENT?
YES
NO
LOCATE OPEN IN WIRE W679-22-20 ON RELAY 161K1. REPAIR OR REPLACE WIRE AS REQUIRED.
OPEN NO. 1 PDP. CHECK FOR 24VDC BETWEEN TERM B3(+) OF RELAY 161K2 AND GROUND. IS 24VDC PRESENT?
YES
NO
LOCATE OPEN IN WIRE W679-25-12 BETWEEN RELAY 161K1 AND RELAY 161K2. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELECTRICAL POWER. LOWER ELECTRICAL PANEL FROM OVERHEAD PANEL. CHECK FOR GROUND ON TERM 2 OF **BATTERY** SWITCH. IS GROUND PRESENT?
YES
NO
LOCATE OPEN IN WIRE W559-323-22. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR 24VDC BETWEEN TERM B4(+) OF RELAY 161K2 AND GROUND. IS 24VDC PRESENT?
YES
NO
REPLACE RELAY 161K2.
CHECK FOR GROUND ON TERM 3 OF **BATTERY** SWITCH. IS GROUND PRESENT?
YES
NO
REPLACE **BATTERY** SWITCH.
LOCATE OPEN IN WIRE W550-141-10 BETWEEN TB3 AND RELAY 161K2. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE OPEN IN WIRE W559-317-20, W645-299-20 OR W697-125-20 BETWEEN BATTERY SWITCH AND RELAY 161K1. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-1.6 NO. 1 OR NO. 2 RECT OFF CAPSULE NOT ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

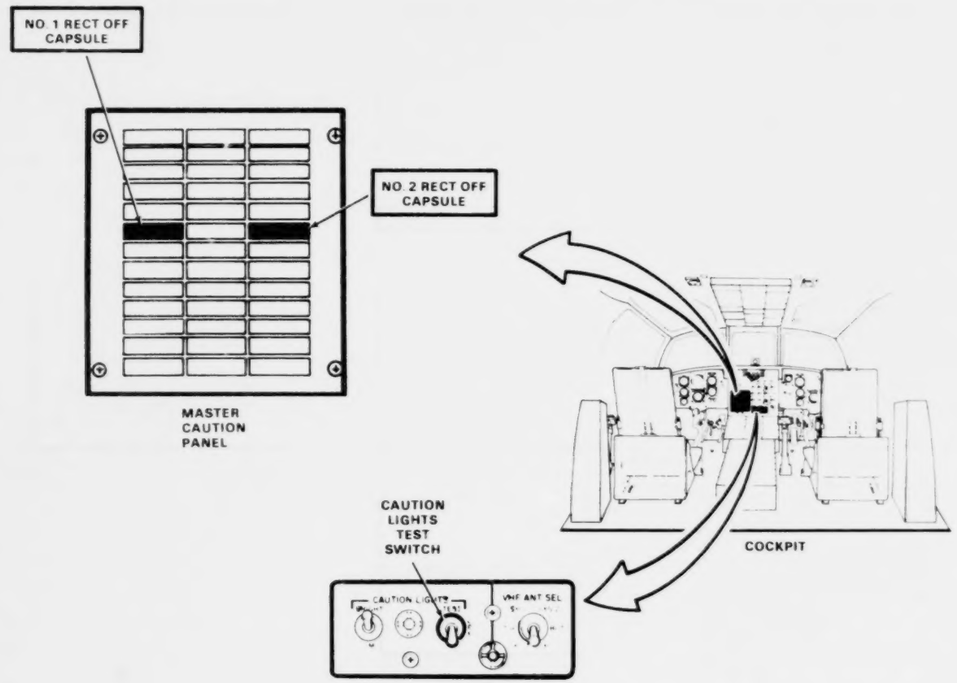
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Multimeter

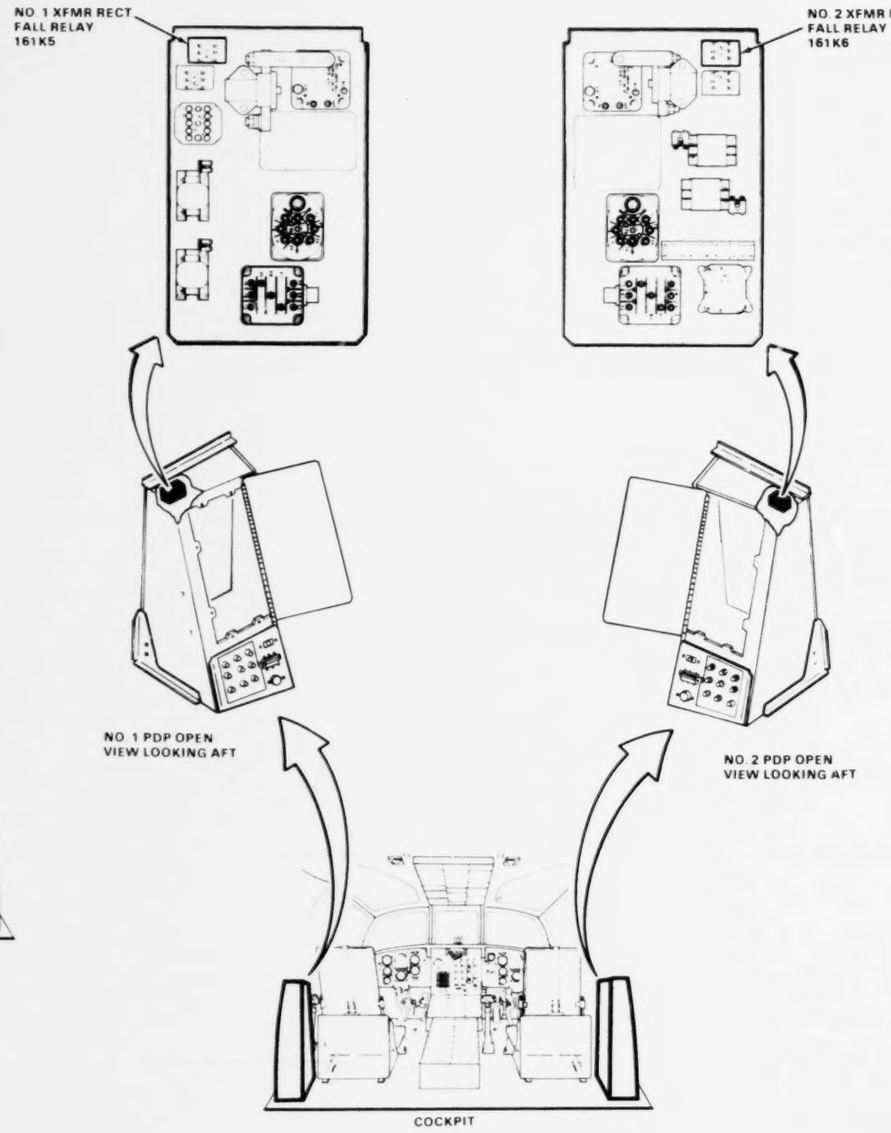
Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off




NO. 1 XFMR RECT FALL RELAY 161K5
NO. 2 XFMR RECT FALL RELAY 161K6
NO. 1 PDP OPEN VIEW LOOKING AFT
NO. 2 PDP OPEN VIEW LOOKING AFT
COCKPIT

90 X 54

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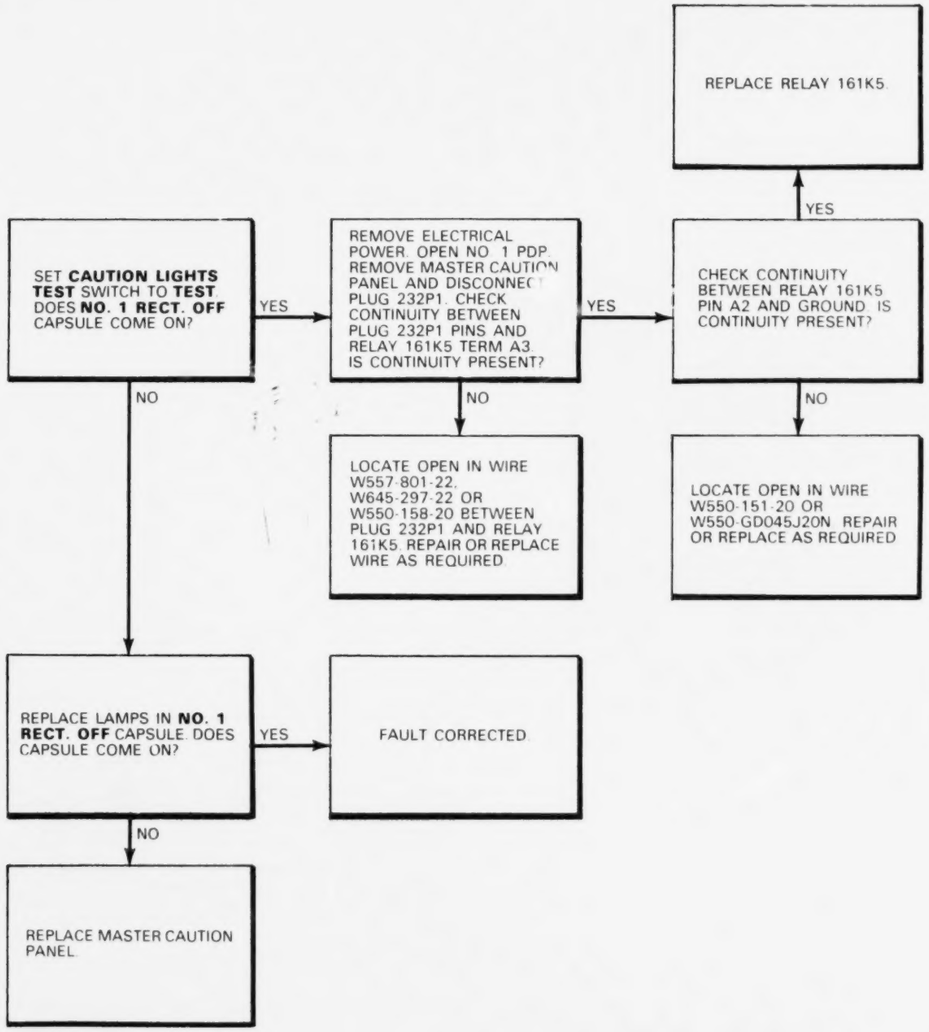
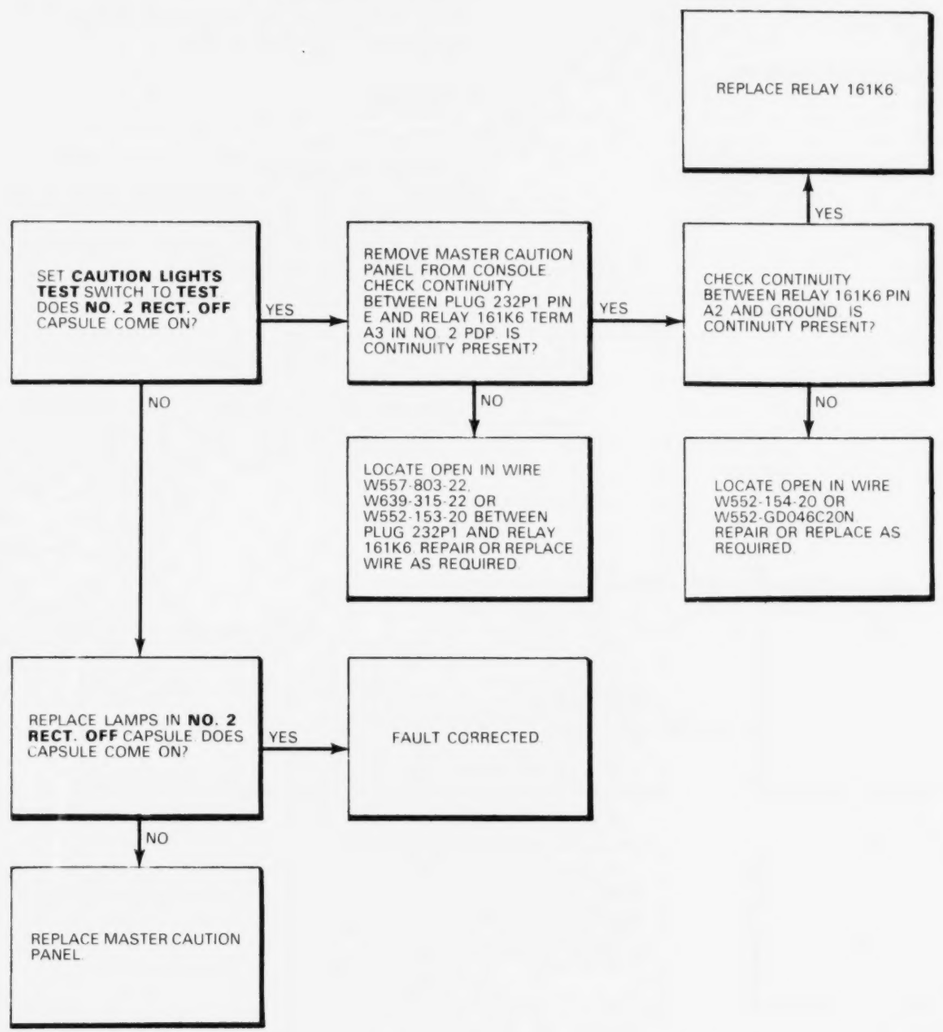
9-1.6 NO. 1 OR NO. 2 RECT OFF CAPSULE NOT ON (Continued)

NO. 1 RECT OFF CAPSULE NOT ON


SET CAUTION LIGHTS TEST SWITCH TO TEST. DOES NO. 1 RECT. OFF CAPSULE COME ON?
YES
NO
REMOVE ELECTRICAL POWER. OPEN NO. 1 PDP. REMOVE MASTER CAUTION PANEL AND DISCONNECT PLUG 232P1. CHECK CONTINUITY BETWEEN PLUG 232P1 PINS AND RELAY 161K5 TERM A3. IS CONTINUITY PRESENT?
YES
NO
CHECK CONTINUITY BETWEEN RELAY 161K5 PIN A2 AND GROUND. IS CONTINUITY PRESENT?
YES
NO
REPLACE RELAY 161K5.
LOCATE OPEN IN WIRE W557-801-22, W645-297-22 OR W550-158-20 BETWEEN PLUG 232P1 AND RELAY 161K5. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE OPEN IN WIRE W550-151-20 OR W550-GD045J20N. REPAIR OR REPLACE AS REQUIRED
REPLACE LAMPS IN NO. 1 RECT. OFF CAPSULE. DOES CAPSULE COME ON?
YES
NO
FAULT CORRECTED
REPLACE MASTER CAUTION PANEL.

NO. 2 RECT OFF CAPSULE NOT ON


SET CAUTION LIGHTS TEST SWITCH TO TEST. DOES NO. 2 RECT. OFF CAPSULE COME ON?
YES
NO
REMOVE MASTER CAUTION PANEL FROM CONSOLE. CHECK CONTINUITY BETWEEN PLUG 232P1 PIN E AND RELAY 161K6 TERM A3 IN NO. 2 PDP. IS CONTINUITY PRESENT?
YES
NO
CHECK CONTINUITY BETWEEN RELAY 161K6 PIN A2 AND GROUND. IS CONTINUITY PRESENT?
YES
NO
REPLACE RELAY 161K6.
LOCATE OPEN IN WIRE W557-803-22, W639-315-22 OR W552-153-20 BETWEEN PLUG 232P1 AND RELAY 161K6. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE OPEN IN WIRE W552-154-20 OR W552-GD046C20N. REPAIR OR REPLACE AS REQUIRED.
REPLACE LAMPS IN NO. 2 RECT. OFF CAPSULE. DOES CAPSULE COME ON?
YES
NO
FAULT CORRECTED
REPLACE MASTER CAUTION PANEL.

END OF TASK

9-1.7 BATTERY CHARGING OR CHARGE COMPLETE LIGHT DOES NOT COME ON WHEN PRESSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

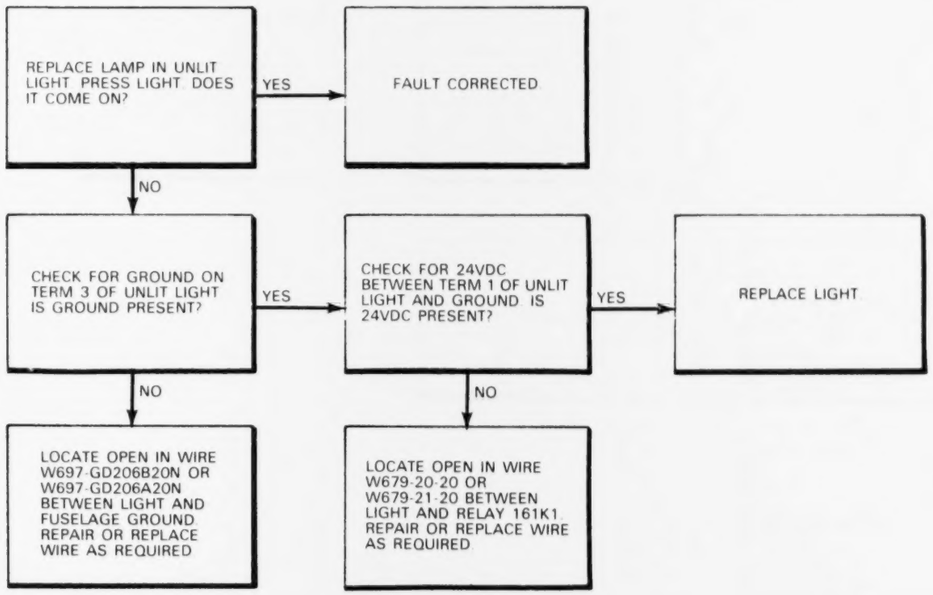
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Multimeter

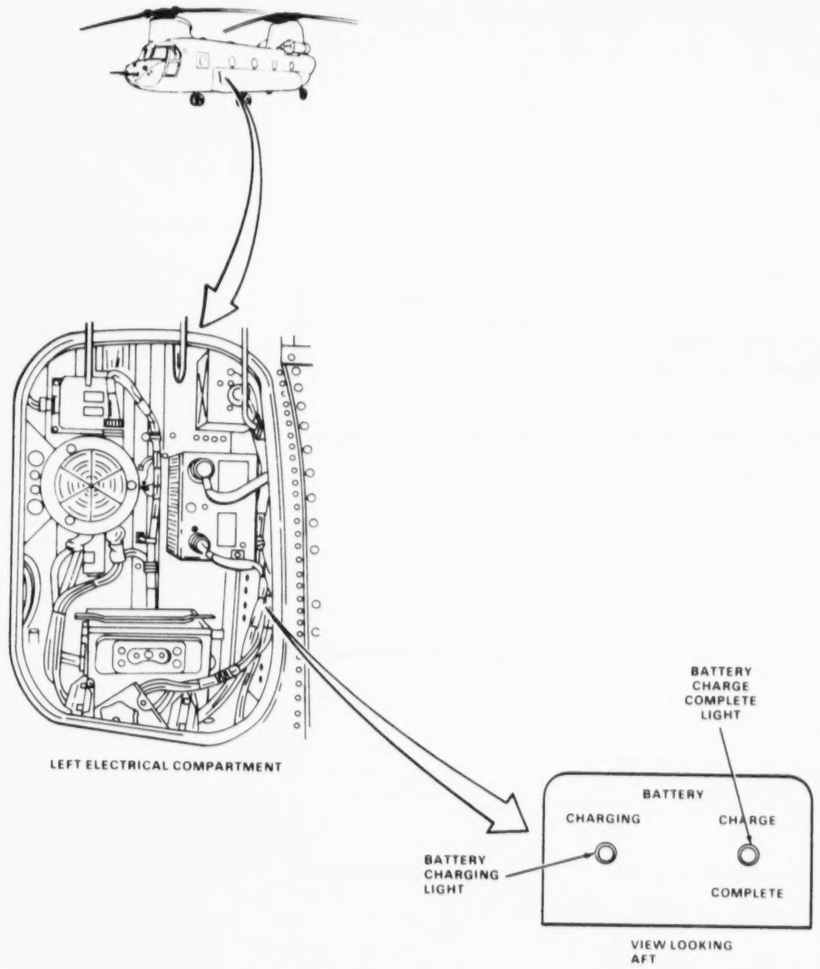
Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off
Left Electrical Compartment Open


REPLACE LAMP IN UNLIT LIGHT PRESS LIGHT DOES IT COME ON?
YES
FAULT CORRECTED
NO
CHECK FOR GROUND ON TERM 3 OF UNLIT LIGHT IS GROUND PRESENT?
YES
CHECK FOR 24VDC BETWEEN TERM 1 OF UNLIT LIGHT AND GROUND IS 24VDC PRESENT?
YES
REPLACE LIGHT
NO
LOCATE OPEN IN WIRE W697-GD206B20N OR W697-GD206A20N BETWEEN LIGHT AND FUSELAGE GROUND REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W679-20-20 OR W679-21-20 BETWEEN LIGHT AND RELAY 161K1 REPAIR OR REPLACE WIRE AS REQUIRED



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END OF TASK

9-1.8 NO. 1 RECT OFF CAPSULE ON WHEN APU RUNNING

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

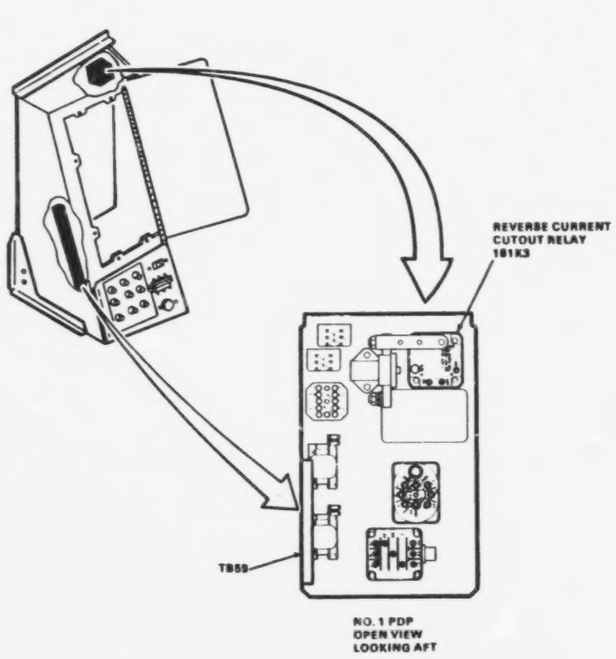
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Multimeter

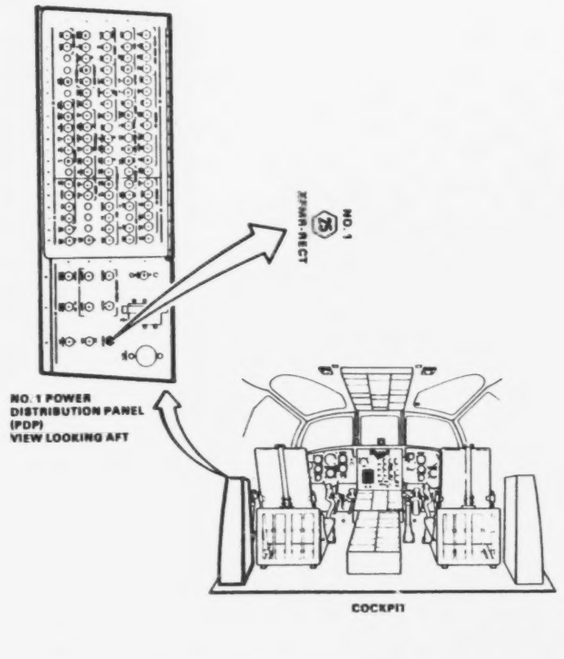
Materials:
None

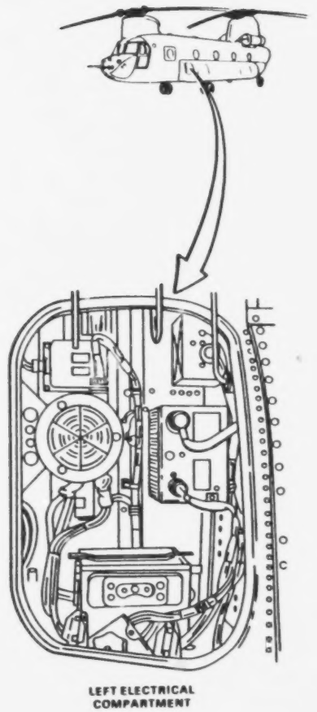
Personnel Required.
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off







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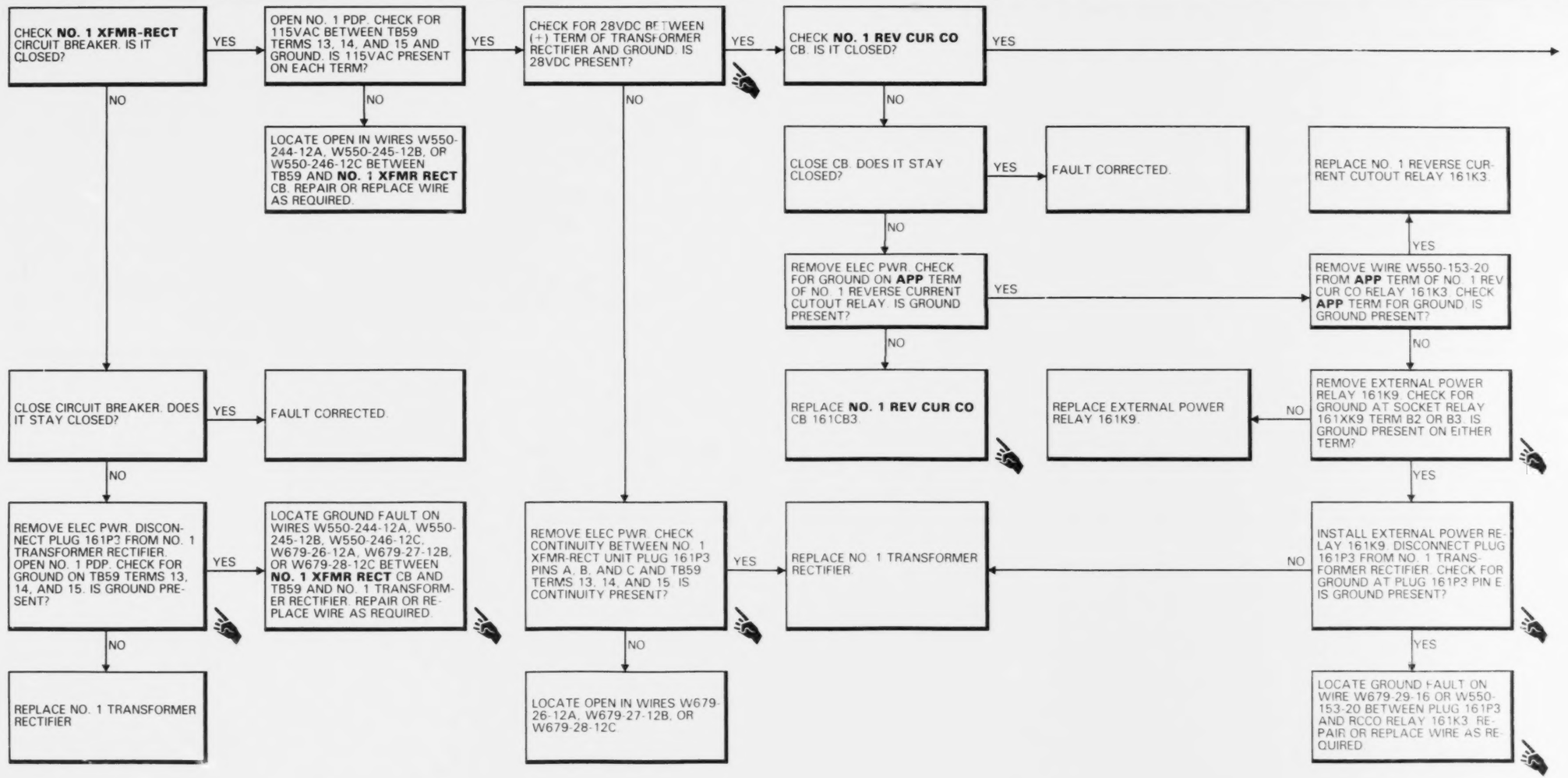
CHECK NO. 1 XFMR-RECT CIRCUIT BREAKER. IS IT CLOSED?
YES
OPEN NO. 1 PDP. CHECK FOR 115VAC BETWEEN TB59 TERMS 13, 14, AND 15 AND GROUND. IS 115VAC PRESENT ON EACH TERM?
YES
CHECK FOR 28VDC BETWEEN (+) TERM OF TRANSFORMER RECTIFIER AND GROUND. IS 28VDC PRESENT?
YES
CHECK NO. 1 REV CUR CO CB. IS IT CLOSED?
YES
NO
LOCATE OPEN IN WIRES W550-244-12A, W550-245-12B, OR W550-246-12C BETWEEN TB59 AND NO. 1 XFMR RECT CB. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CLOSE CB. DOES IT STAY CLOSED?
YES
FAULT CORRECTED.
REPLACE NO. 1 REVERSE CURRENT CUTOUT RELAY 161K3.
YES
NO
REMOVE ELEC PWR. CHECK FOR GROUND ON APP TERM OF NO. 1 REVERSE CURRENT CUTOUT RELAY. IS GROUND PRESENT?
YES
REMOVE WIRE W550-153-20 FROM APP TERM OF NO. 1 REV CUR CO RELAY 161K3. CHECK APP TERM FOR GROUND. IS GROUND PRESENT?
NO
CLOSE CIRCUIT BREAKER. DOES IT STAY CLOSED?
YES
FAULT CORRECTED.
NO
REPLACE NO. 1 REV CUR CO CB 161CB3.
REPLACE EXTERNAL POWER RELAY 161K9.
NO
REMOVE EXTERNAL POWER RELAY 161K9. CHECK FOR GROUND AT SOCKET RELAY 161XK9 TERM B2 OR B3. IS GROUND PRESENT ON EITHER TERM?
YES
NO
REMOVE ELEC PWR. DISCONNECT PLUG 161P3 FROM NO. 1 TRANSFORMER RECTIFIER. OPEN NO. 1 PDP. CHECK FOR GROUND ON TB59 TERMS 13, 14, AND 15. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRES W550-244-12A, W550-245-12B, W550-246-12C, W679-26-12A, W679-27-12B, OR W679-28-12C BETWEEN NO. 1 XFMR RECT CB AND TB59 AND NO. 1 TRANSFORMER RECTIFIER. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELEC PWR. CHECK CONTINUITY BETWEEN NO. 1 XFMR-RECT UNIT PLUG 161P3 PINS A, B, AND C AND TB59 TERMS 13, 14, AND 15. IS CONTINUITY PRESENT?
YES
REPLACE NO. 1 TRANSFORMER RECTIFIER.
NO
INSTALL EXTERNAL POWER RELAY 161K9. DISCONNECT PLUG 161P3 FROM NO. 1 TRANSFORMER RECTIFIER. CHECK FOR GROUND AT PLUG 161P3 PIN E. IS GROUND PRESENT?
YES
NO
REPLACE NO. 1 TRANSFORMER RECTIFIER
LOCATE OPEN IN WIRES W679-26-12A, W679-27-12B, OR W679-28-12C.
LOCATE GROUND FAULT ON WIRE W679-29-16 OR W550-153-20 BETWEEN PLUG 161P3 AND RCCO RELAY 161K3. REPAIR OR REPLACE WIRE AS REQUIRED.

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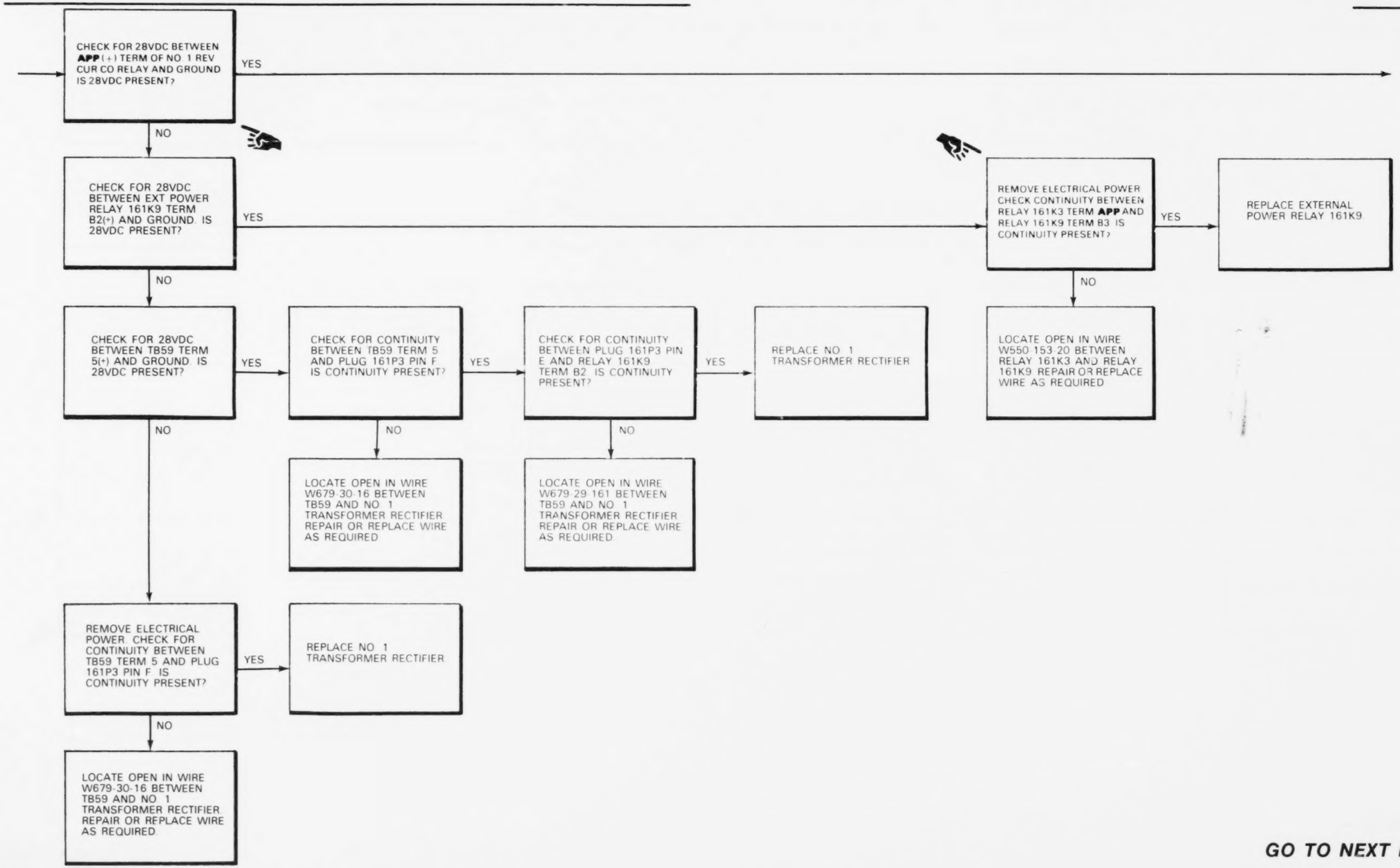
9-1.8 NO. 1 RECT OFF CAPSULE ON WHEN APU RUNNING (Continued)


CHECK FOR 28VDC BETWEEN APP (+) TERM OF NO. 1 REV CUR CO RELAY AND GROUND IS 28VDC PRESENT?
YES
NO
CHECK FOR 28VDC BETWEEN EXT POWER RELAY 161K9 TERM B2(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
CHECK FOR 28VDC BETWEEN TB59 TERM 5(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
CHECK FOR CONTINUITY BETWEEN TB59 TERM 5 AND PLUG 161P3 PIN F. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W679-30-16 BETWEEN TB59 AND NO. 1 TRANSFORMER RECTIFIER. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR CONTINUITY BETWEEN PLUG 161P3 PIN E AND RELAY 161K9 TERM B2. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W679-29-161 BETWEEN TB59 AND NO. 1 TRANSFORMER RECTIFIER. REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE NO. 1 TRANSFORMER RECTIFIER
REMOVE ELECTRICAL POWER. CHECK FOR CONTINUITY BETWEEN TB59 TERM 5 AND PLUG 161P3 PIN F. IS CONTINUITY PRESENT?
YES
NO
REPLACE NO. 1 TRANSFORMER RECTIFIER
LOCATE OPEN IN WIRE W679-30-16 BETWEEN TB59 AND NO. 1 TRANSFORMER RECTIFIER. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELECTRICAL POWER. CHECK CONTINUITY BETWEEN RELAY 161K3 TERM APP AND RELAY 161K9 TERM B3. IS CONTINUITY PRESENT?
YES
NO
REPLACE EXTERNAL POWER RELAY 161K9
LOCATE OPEN IN WIRE W550-153-20 BETWEEN RELAY 161K3 AND RELAY 161K9. REPAIR OR REPLACE WIRE AS REQUIRED

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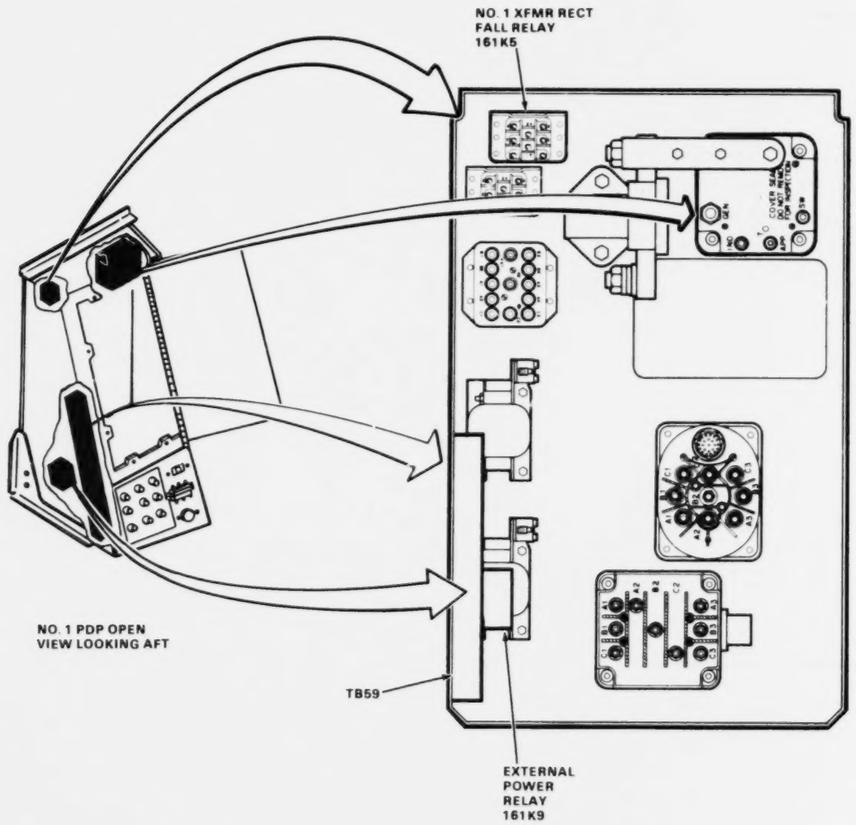
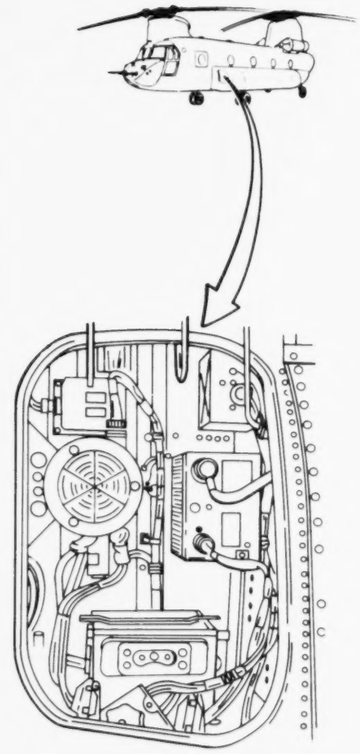
9-1.8 NO. 1 RECT OFF CAPSULE ON WHEN APU RUNNING (Continued)





LEFT ELECTRICAL COMPARTMENT

90 X 54

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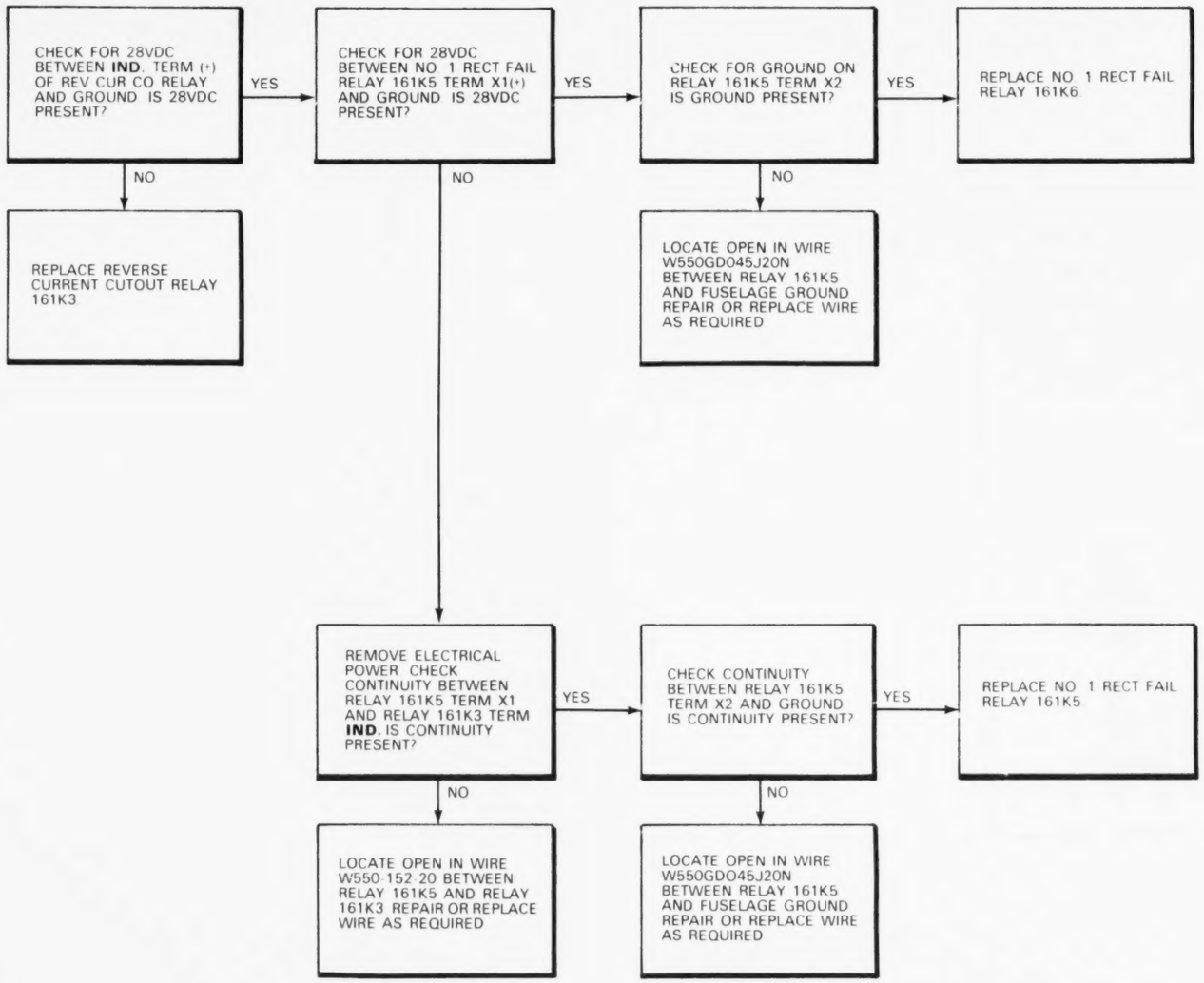
9-1.8 NO. 1 RECT OFF CAPSULE ON WHEN APU RUNNING (Continued)


CHECK FOR 28VDC BETWEEN IND. TERM (+) OF REV CUR CO RELAY AND GROUND IS 28VDC PRESENT?
YES
CHECK FOR 28VDC BETWEEN NO. 1 RECT FAIL RELAY 161K5 TERM X1(+) AND GROUND IS 28VDC PRESENT?
YES
CHECK FOR GROUND ON RELAY 161K5 TERM X2 IS GROUND PRESENT?
YES
REPLACE NO. 1 RECT FAIL RELAY 161K6.
NO
REPLACE REVERSE CURRENT CUTOUT RELAY 161K3
NO
LOCATE OPEN IN WIRE W550GD045J20N BETWEEN RELAY 161K5 AND FUSELAGE GROUND REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE ELECTRICAL POWER CHECK CONTINUITY BETWEEN RELAY 161K5 TERM X1 AND RELAY 161K3 TERM IND. IS CONTINUITY PRESENT?
YES
CHECK CONTINUITY BETWEEN RELAY 161K5 TERM X2 AND GROUND IS CONTINUITY PRESENT?
YES
REPLACE NO. 1 RECT FAIL RELAY 161K5
NO
LOCATE OPEN IN WIRE W550-152-20 BETWEEN RELAY 161K5 AND RELAY 161K3 REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W550GDO45J20N BETWEEN RELAY 161K5 AND FUSELAGE GROUND REPAIR OR REPLACE WIRE AS REQUIRED

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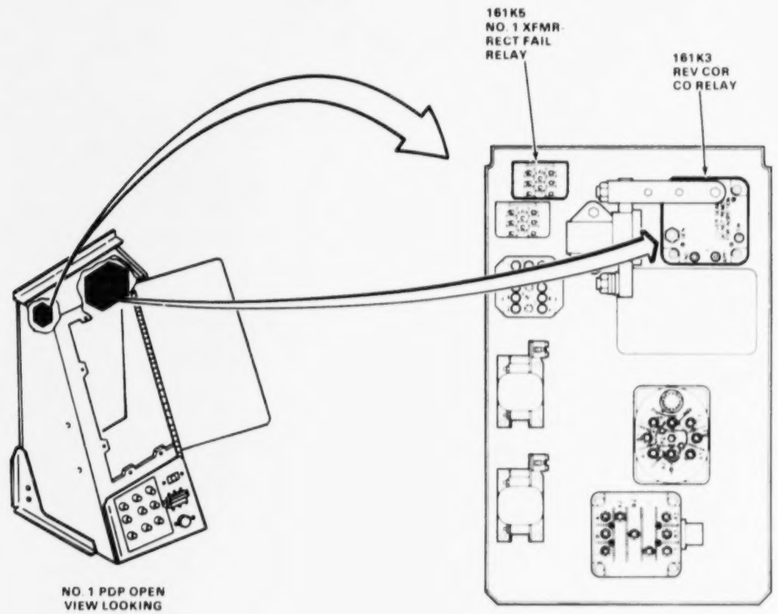
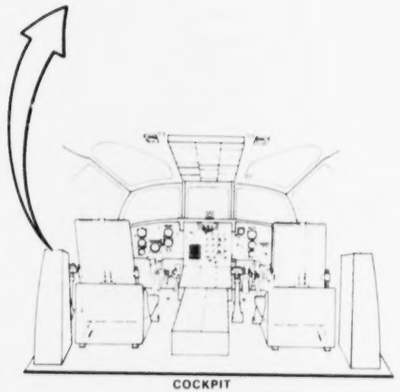
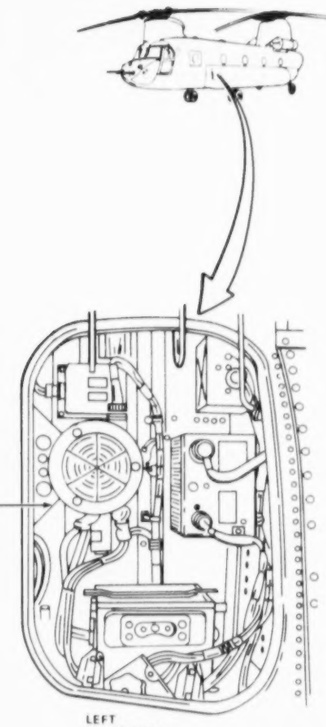
9-1.8 NO. 1 RECT OFF CAPSULE ON WHEN APU RUNNING (Continued)



NO. 1 PDP OPEN
VIEW LOOKING
AFT



COCKPIT



LEFT
ELECTRICAL
COMPARTMENT

90 x 54

0145-12039-SPA

END OF TASK

9-1.9 NO. 2 RECT OFF CAPSULE ON WHEN APU RUNNING

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

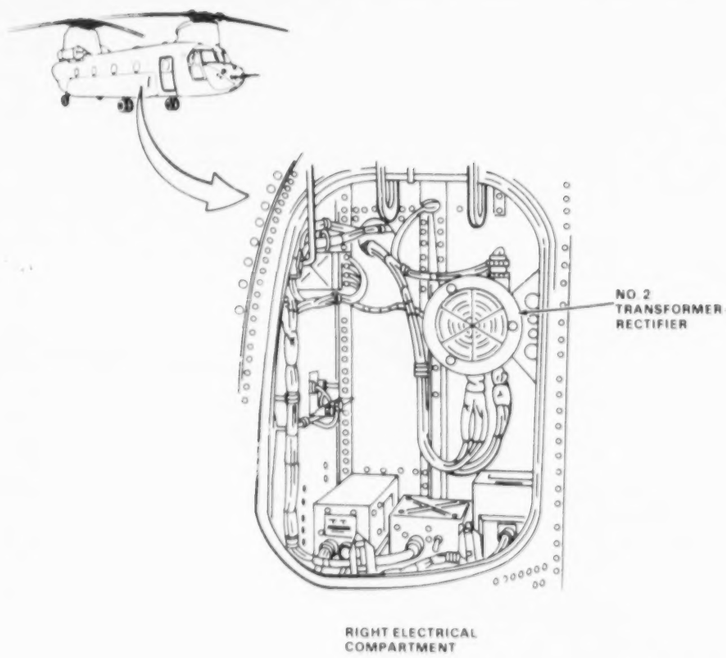
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Multimeter

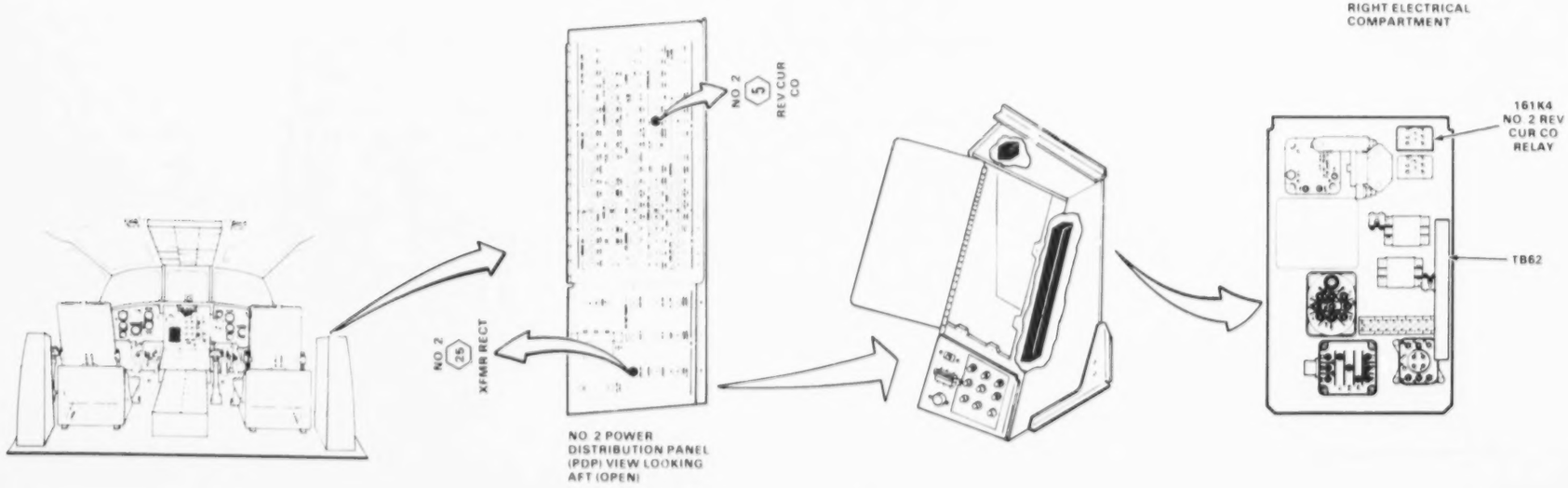
Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off





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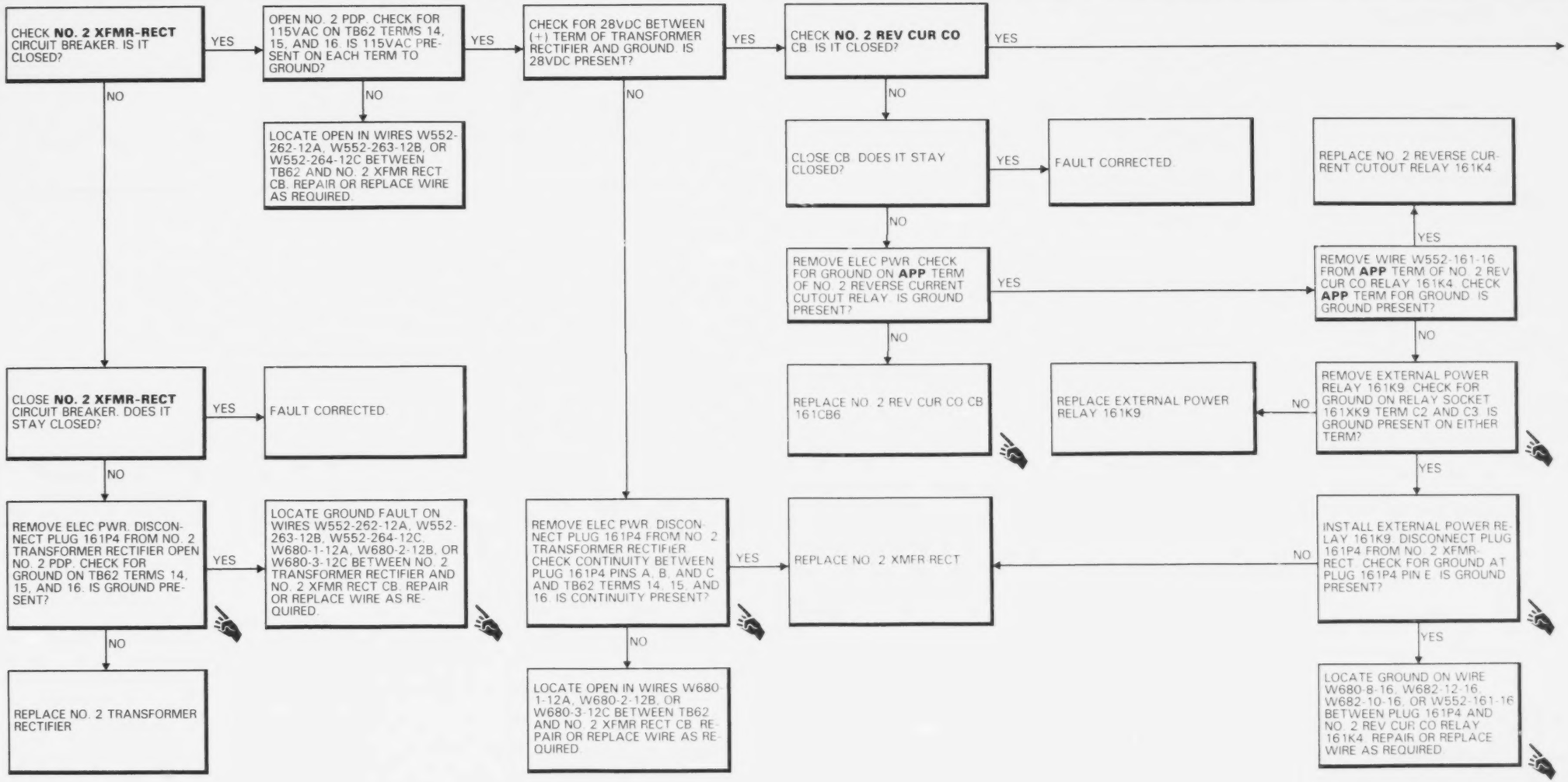
9-1.9 NO. 2 RECT OFF CAPSULE ON WHEN APU RUNNING (Continued)


CHECK NO. 2 XFMR-RECT CIRCUIT BREAKER. IS IT CLOSED?
YES
OPEN NO. 2 PDP. CHECK FOR 115VAC ON TB62 TERMS 14, 15, AND 16. IS 115VAC PRESENT ON EACH TERM TO GROUND?
YES
CHECK FOR 28VDC BETWEEN (+) TERM OF TRANSFORMER RECTIFIER AND GROUND. IS 28VDC PRESENT?
YES
CHECK NO. 2 REV CUR CO CB. IS IT CLOSED?
YES
NO
LOCATE OPEN IN WIRES W552-262-12A, W552-263-12B, OR W552-264-12C BETWEEN TB62 AND NO. 2 XFMR RECT CB. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
NO
CLOSE CB. DOES IT STAY CLOSED?
YES
FAULT CORRECTED.
REPLACE NO. 2 REVERSE CURRENT CUTOUT RELAY 161K4
NO
YES
CLOSE NO. 2 XFMR-RECT CIRCUIT BREAKER. DOES IT STAY CLOSED?
YES
FAULT CORRECTED.
REMOVE ELEC PWR. CHECK FOR GROUND ON APP TERM OF NO. 2 REVERSE CURRENT CUTOUT RELAY. IS GROUND PRESENT?
YES
REMOVE WIRE W552-161-16 FROM APP TERM OF NO. 2 REV CUR CO RELAY 161K4. CHECK APP TERM FOR GROUND. IS GROUND PRESENT?
NO
NO
REPLACE NO. 2 REV CUR CO CB 161CB6.
REPLACE EXTERNAL POWER RELAY 161K9.
NO
REMOVE EXTERNAL POWER RELAY 161K9. CHECK FOR GROUND ON RELAY SOCKET 161XK9 TERM C2 AND C3. IS GROUND PRESENT ON EITHER TERM?
YES
NO
REMOVE ELEC PWR. DISCONNECT PLUG 161P4 FROM NO. 2 REV CUR CO RELAY 161K4. CHECK FOR GROUND ON TB62 TERMS 14, 15, AND 16. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRES W552-262-12A, W552-263-12B, W552-264-12C, W680-1-12A, W680-2-12B, OR W680-3-12C BETWEEN NO. 2 TRANSFORMER RECTIFIER AND NO. 2 XFMR RECT CB. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE ELEC PWR. DISCONNECT PLUG 161P4 FROM NO. 2 TRANSFORMER RECTIFIER. CHECK CONTINUITY BETWEEN PLUG 161P4 PINS A, B, AND C AND TB62 TERMS 14, 15, AND 16. IS CONTINUITY PRESENT?
YES
REPLACE NO. 2 XMFR RECT.
NO
INSTALL EXTERNAL POWER RELAY 161K9. DISCONNECT PLUG 161P4 FROM NO. 2 XFMR-RECT. CHECK FOR GROUND AT PLUG 161P4 PIN E. IS GROUND PRESENT?
YES
REMOVE NO. 2 TRANSFORMER RECTIFIER
LOCATE OPEN IN WIRES W680-1-12A, W680-2-12B, OR W680-3-12C BETWEEN TB62 AND NO. 2 XFMR RECT CB. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE GROUND ON WIRE W680-8-16, W682-12-16, W682-10-16, OR W552-161-16 BETWEEN PLUG 161P4 AND NO. 2 REV CUR CO RELAY 161K4. REPAIR OR REPLACE WIRE AS REQUIRED.

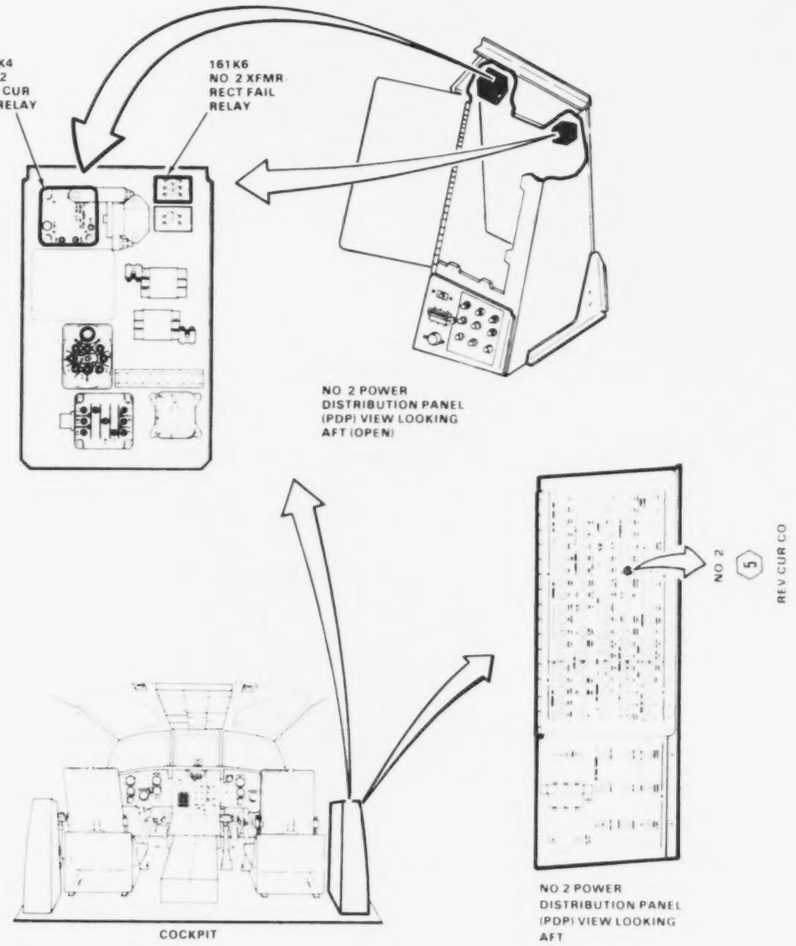
GO TO NEXT PAGE

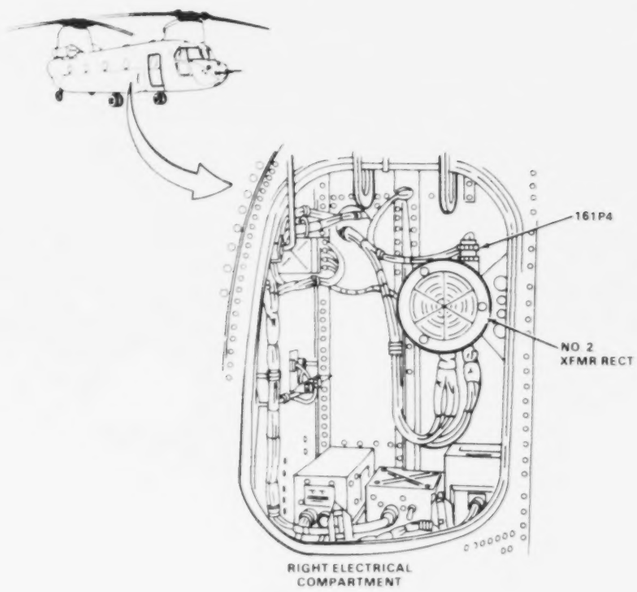
9-1.9 NO. 2 RECT OFF CAPSULE ON WHEN APU RUNNING (Continued)

CHECK FOR 28VDC BETWEEN APP TERM (+) OF NO 2 REV CUR CO RELAY AND GROUND IS 28VDC PRESENT?
YES
NO
CHECK FOR 28VDC BETWEEN IND. TERM OF REV CUR CO RELAY AND GROUND IS 28VDC PRESENT?
YES
NO
REPLACE REVERSE CURRENT CUTOUT RELAY 161K4
CHECK FOR 28VDC BETWEEN NO. RECT FAIL RELAY 161K6 TERM X1 AND GROUND IS 28VDC PRESENT?
YES
NO
CHECK FOR GROUND ON RELAY 161K6 TERM X2 IS GROUND PRESENT?
YES
NO
REPLACE NO. 2 RECT FAIL RELAY 161K6
LOCATE OPEN IN WIRE W552 GD046C20N. REPAIR OR REPLACE AS REQUIRED
CHECK FOR 28VDC BETWEEN EXT POWER RELAY 161K9 TERM C2(+) AND GROUND IS 28VDC PRESENT?
YES
NO
REMOVE ELECTRICAL POWER. CHECK CONTINUITY BETWEEN RELAY 161K4 TERM SWITCH AND RELAY 161K9 TERM C3. IS CONTINUITY PRESENT?
YES
NO
REPLACE EXT POWER RELAY 161K9
LOCATE OPEN IN WIRES W552-161-16 OR W682-10-16 BETWEEN RELAY 161K4 AND RELAY 161K9. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE ELECTRICAL POWER. CHECK CONTINUITY BETWEEN RELAY 161K6 TERM X1 AND RELAY 161K4 TERM IND. IS CONTINUITY PRESENT?
YES
NO
CHECK CONTINUITY BETWEEN RELAY 161K6 TERM X2 AND GROUND IS CONTINUITY PRESENT?
YES
NO
REPLACE NO. 2 RECT FAIL RELAY 161K6
LOCATE OPEN IN WIRE W552-256-10. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE OPEN IN WIRE W552-GD046C20N. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE ELECTRICAL POWER. CHECK CONTINUITY BETWEEN RELAY 161K4 TERM APP AND PLUG 161P4 PIN E. IS CONTINUITY PRESENT?
YES
NO
CHECK FOR CONTINUITY BETWEEN PLUG 161P4 PIN F AND CIRCUIT BREAKER 161CB6 NO. 2 REV CUR CO. IS CONTINUITY PRESENT?
YES
NO
CHECK FOR CONTINUITY BETWEEN BREAKER 161CB6 AND RELAY 161K4 TERM GEN. IS CONTINUITY PRESENT?
YES
NO
REPLACE NO. 2 REV CUR CO CB 161CB6
LOCATE OPEN IN WIRES W552-161-16, W682-10-16, W682-12-16 OR W680-8-16 BETWEEN RELAY 161K4 AND PLUG 161P4. REPAIR OR REPLACE AS REQUIRED
LOCATE OPEN IN WIRES W552-265-16 OR W680-4-16. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE OPEN IN WIRE W552-158-20 BETWEEN CB 161CB6 AND RELAY 161K4. REPAIR OR REPLACE WIRE AS REQUIRED

GO TO NEXT PAGE

9-1.9 NO. 2 RECT OFF CAPSULE ON WHEN APU RUNNING (Continued)





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END OF TASK

9-1.10 BATTERY CHARGING AND CHARGE COMPLETE LIGHTS OUT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

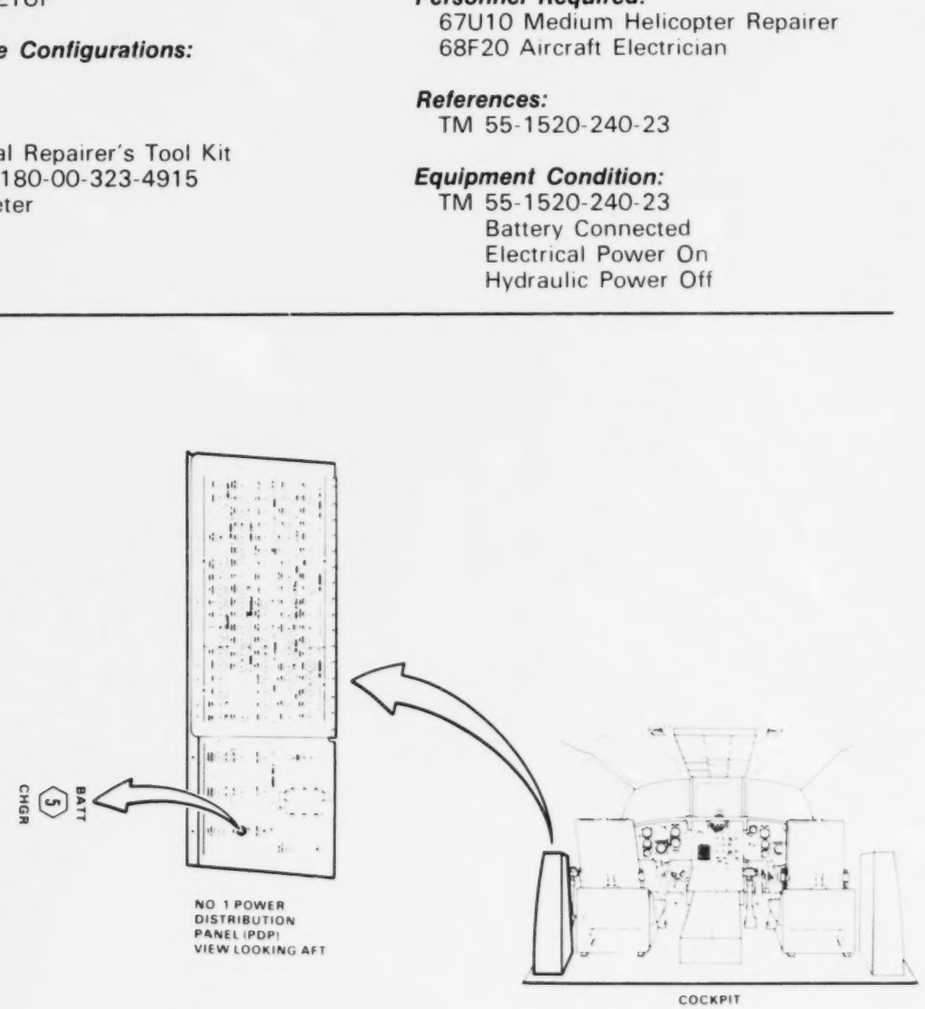
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Multimeter

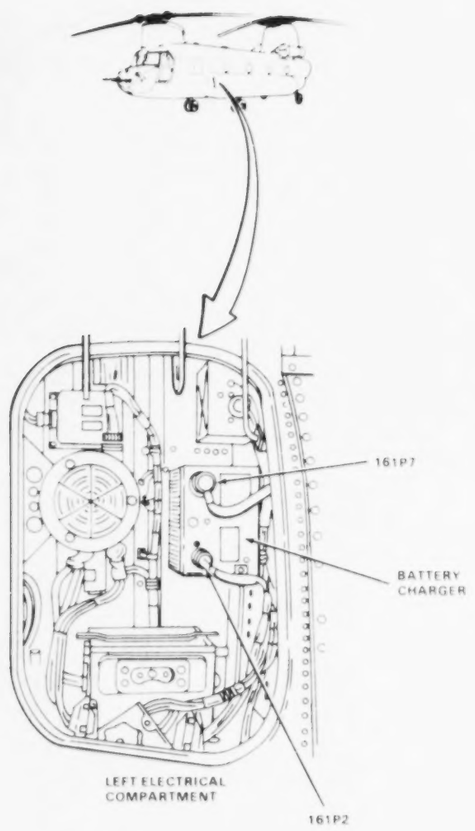
Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off





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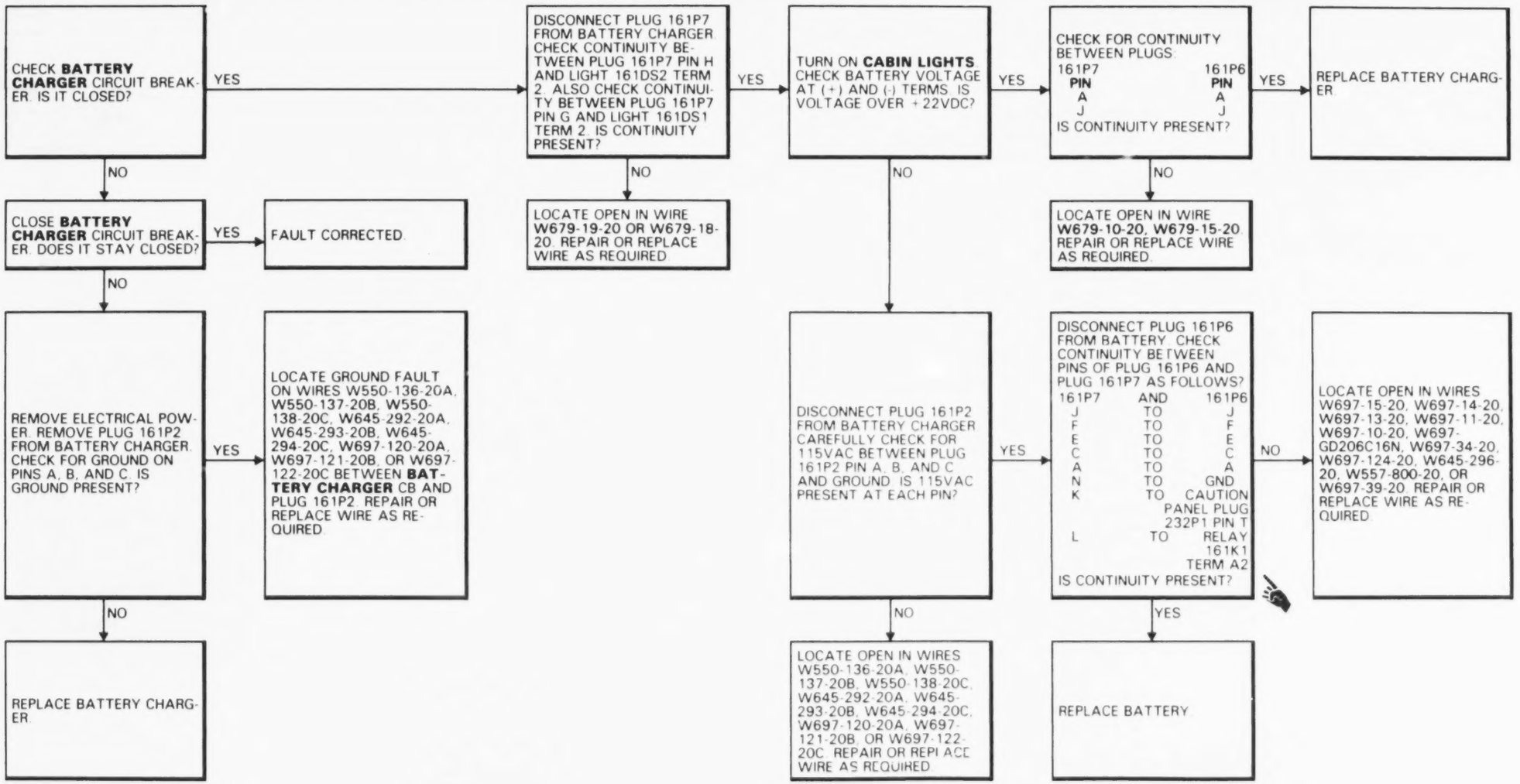

CHECK **BATTERY CHARGER** CIRCUIT BREAKER. IS IT CLOSED?
YES
NO
CLOSE **BATTERY CHARGER** CIRCUIT BREAKER. DOES IT STAY CLOSED?
YES
FAULT CORRECTED.
NO
REMOVE ELECTRICAL POWER. REMOVE PLUG 161P2 FROM BATTERY CHARGER. CHECK FOR GROUND ON PINS A, B, AND C. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRES W550-136-20A, W550-137-20B, W550-138-20C, W645-292-20A, W645-293-20B, W645-294-20C, W697-120-20A, W697-121-20B, OR W697-122-20C BETWEEN **BATTERY CHARGER** CB AND PLUG 161P2. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE BATTERY CHARGER.
DISCONNECT PLUG 161P7 FROM BATTERY CHARGER. CHECK CONTINUITY BETWEEN PLUG 161P7 PIN H AND LIGHT 161DS2 TERM 2. ALSO CHECK CONTINUITY BETWEEN PLUG 161P7 PIN G AND LIGHT 161DS1 TERM 2. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W679-19-20 OR W679-18-20. REPAIR OR REPLACE WIRE AS REQUIRED.
TURN ON **CABIN LIGHTS**. CHECK BATTERY VOLTAGE AT (+) AND (-) TERMS. IS VOLTAGE OVER +22VDC?
YES
NO
DISCONNECT PLUG 161P2 FROM BATTERY CHARGER. CAREFULLY CHECK FOR 115VAC BETWEEN PLUG 161P2 PIN A, B, AND C AND GROUND. IS 115VAC PRESENT AT EACH PIN?
YES
NO
LOCATE OPEN IN WIRES W550-136-20A, W550-137-20B, W550-138-20C, W645-292-20A, W645-293-20B, W645-294-20C, W697-120-20A, W697-121-20B, OR W697-122-20C. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR CONTINUITY BETWEEN PLUGS:
161P7 PIN A J
161P6 PIN A J
IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W679-10-20, W679-15-20. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE BATTERY CHARGER.
DISCONNECT PLUG 161P6 FROM BATTERY. CHECK CONTINUITY BETWEEN PINS OF PLUG 161P6 AND PLUG 161P7 AS FOLLOWS?
161P7 AND 161P6
J TO J
F TO F
E TO E
C TO C
A TO A
N TO GND
K TO CAUTION PANEL PLUG 232P1 PIN T
L TO RELAY 161K1 TERM A2
IS CONTINUITY PRESENT?
NO
YES
LOCATE OPEN IN WIRES W697-15-20, W697-14-20, W697-13-20, W697-11-20, W697-10-20, W697-GD206C16N, W697-34-20, W697-124-20, W645-296-20, W557-800-20, OR W697-39-20. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE BATTERY.

END OF TASK

9-1.11 BATTERY SYSTEM MAL CAPSULE ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

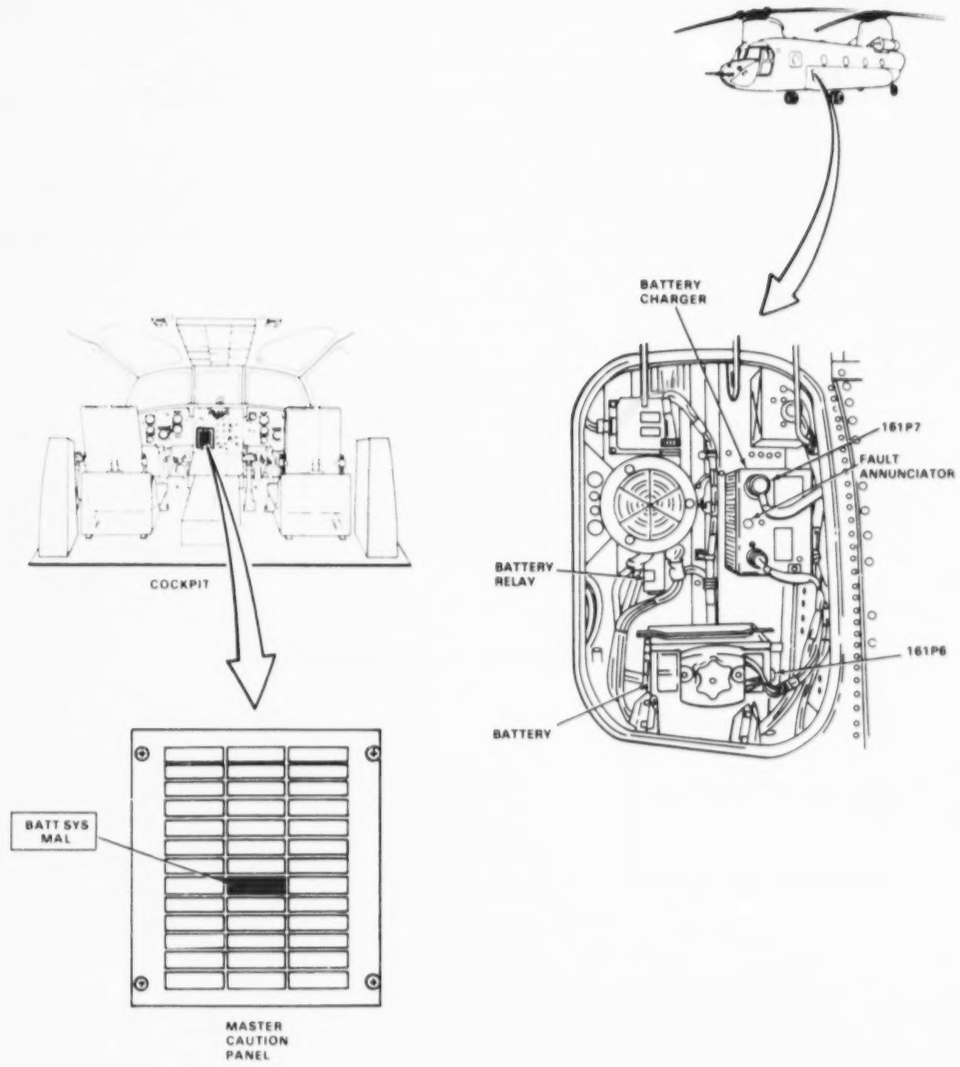
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Medium Helicopter Repairer
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



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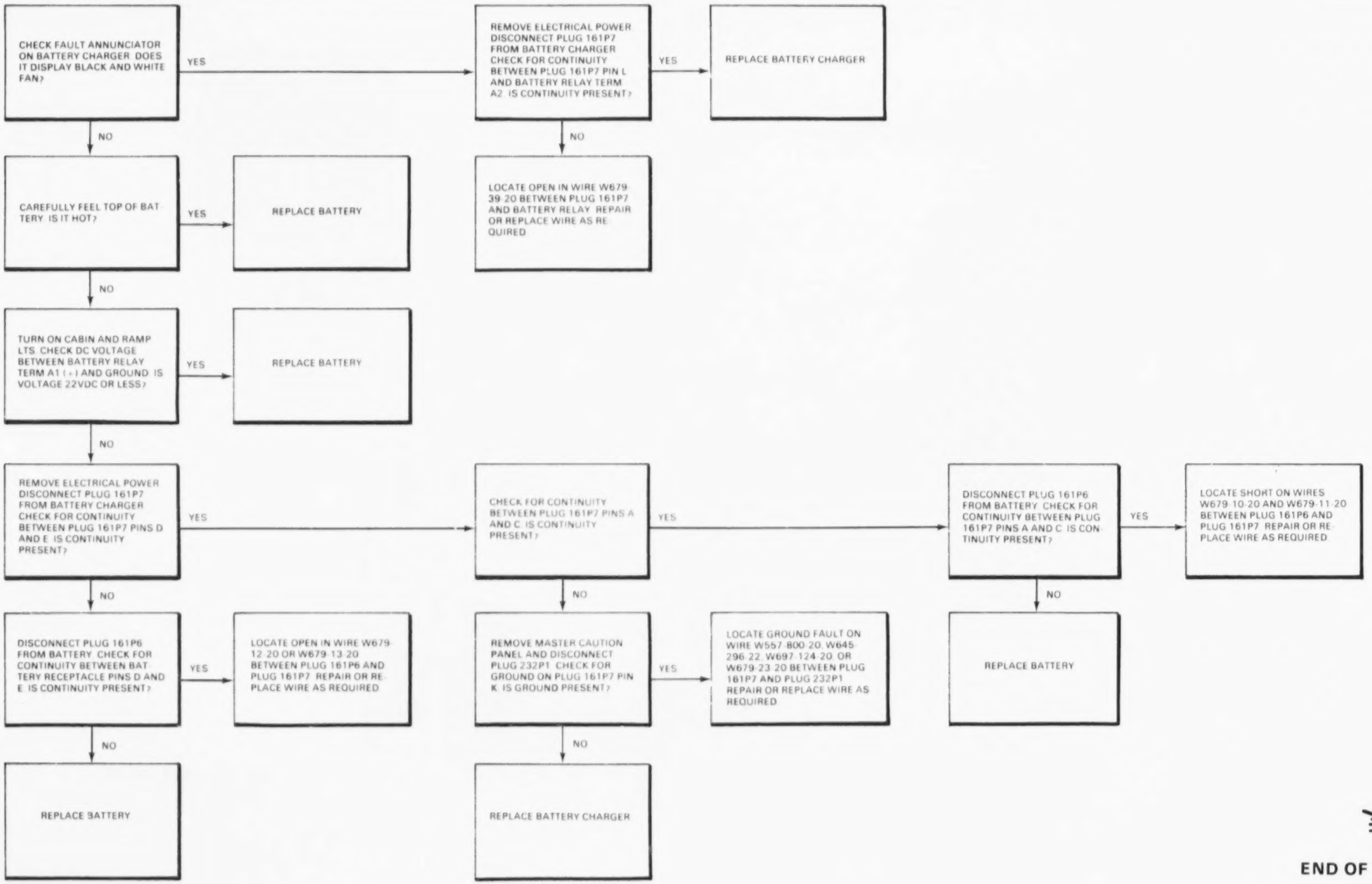
GO TO NEXT PAGE

9-1.11 BATTERY SYSTEM MAL CAPSULE ON (Continued)


CHECK FAULT ANNUNCIATOR ON BATTERY CHARGER. DOES IT DISPLAY BLACK AND WHITE FAN?
YES
REMOVE ELECTRICAL POWER. DISCONNECT PLUG 161P7 FROM BATTERY CHARGER. CHECK FOR CONTINUITY BETWEEN PLUG 161P7 PIN L AND BATTERY RELAY TERM A2. IS CONTINUITY PRESENT?
YES
REPLACE BATTERY CHARGER
NO
LOCATE OPEN IN WIRE W679-39-20 BETWEEN PLUG 161P7 AND BATTERY RELAY. REPAIR OR REPLACE WIRE AS REQUIRED
NO
CAREFULLY FEEL TOP OF BATTERY. IS IT HOT?
YES
REPLACE BATTERY
NO
TURN ON CABIN AND RAMP LTS. CHECK DC VOLTAGE BETWEEN BATTERY RELAY TERM A1 (+) AND GROUND. IS VOLTAGE 22VDC OR LESS?
YES
REPLACE BATTERY
NO
REMOVE ELECTRICAL POWER. DISCONNECT PLUG 161P7 FROM BATTERY CHARGER. CHECK FOR CONTINUITY BETWEEN PLUG 161P7 PINS D AND E. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 161P7 PINS A AND C. IS CONTINUITY PRESENT?
YES
DISCONNECT PLUG 161P6 FROM BATTERY. CHECK FOR CONTINUITY BETWEEN PLUG 161P7 PINS A AND C. IS CONTINUITY PRESENT?
YES
LOCATE SHORT ON WIRES W679-10-20 AND W679-11-20 BETWEEN PLUG 161P6 AND PLUG 161P7. REPAIR OR REPLACE WIRE AS REQUIRED
NO
DISCONNECT PLUG 161P6 FROM BATTERY. CHECK FOR CONTINUITY BETWEEN BATTERY RECEPTACLE PINS D AND E. IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRE W679-12-20 OR W679-13-20 BETWEEN PLUG 161P6 AND PLUG 161P7. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE BATTERY
NO
REMOVE MASTER CAUTION PANEL AND DISCONNECT PLUG 232P1. CHECK FOR GROUND ON PLUG 161P7 PIN K. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W557-800-20, W645-296-22, W697-124-20, OR W679-23-20 BETWEEN PLUG 161P7 AND PLUG 232P1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE BATTERY CHARGER
NO
REPLACE BATTERY

END OF TASK

9-1.12 ANTICOLLISION LIGHTS DO NOT FLASH, NO. 1 DC SYSTEM TURNED OFF

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

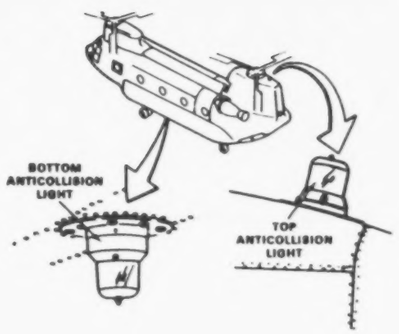
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Aircraft Mechanic's Tool Kit
NSN 5180-00-323-4692
Multimeter

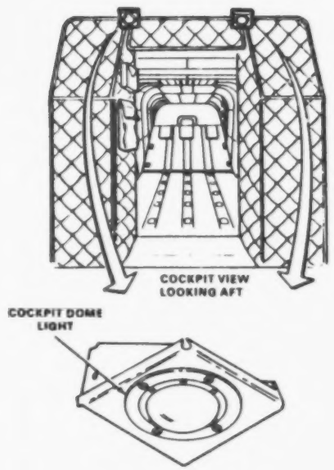
Materials:
None

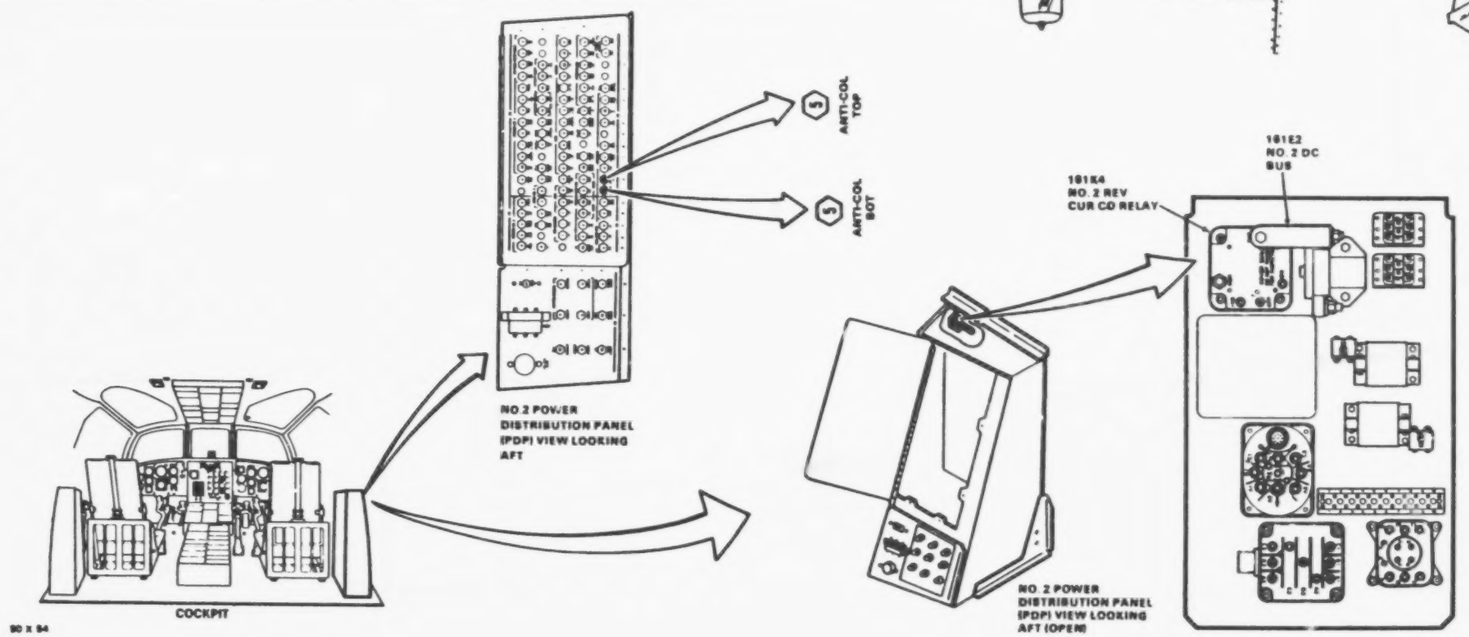
Personnel Required:
67U20 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off






ANTI-COL TOP
ANTI-COL BOT
NO.2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
COCKPIT
1B1E2 NO. 2 DC BUS
1B1K4 NO. 2 REV CUR CO RELAY
NO. 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT (OPEN)

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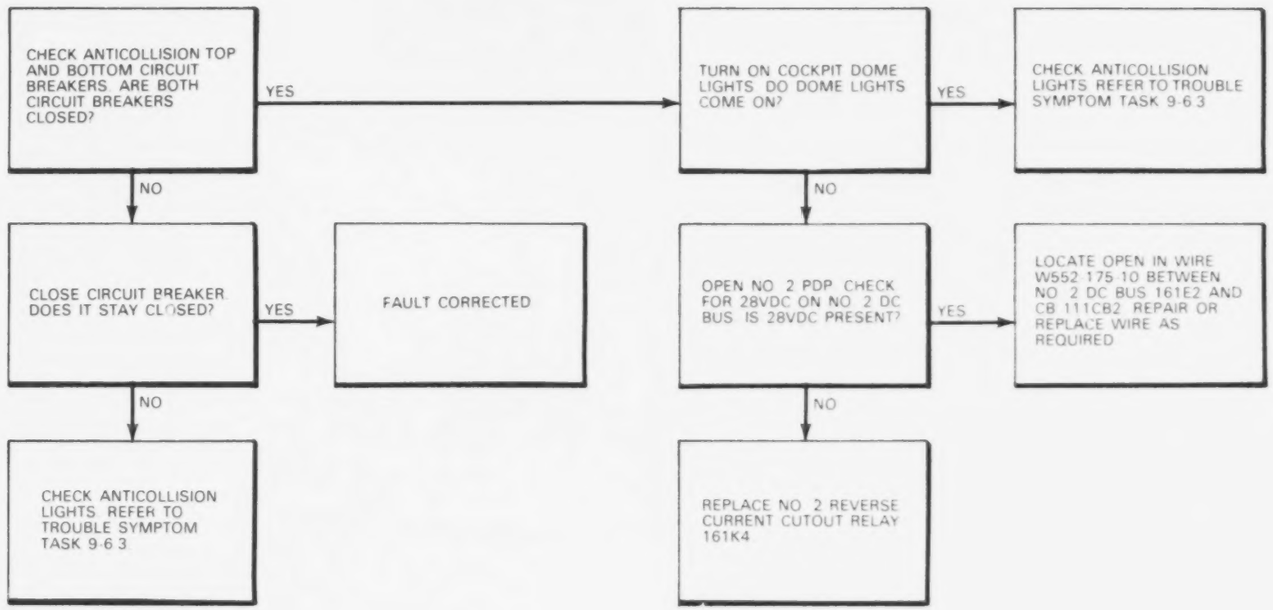
9-1.12 ANTICOLLISION LIGHTS DO NOT FLASH, NO. 1 DC SYSTEM TURNED OFF (Continued)


CHECK ANTICOLLISION TOP AND BOTTOM CIRCUIT BREAKERS. ARE BOTH CIRCUIT BREAKERS CLOSED?
YES
NO
CLOSE CIRCUIT BREAKER. DOES IT STAY CLOSED?
YES
FAULT CORRECTED
NO
CHECK ANTICOLLISION LIGHTS. REFER TO TROUBLE SYMPTOM TASK 9-6.3
TURN ON COCKPIT DOME LIGHTS. DO DOME LIGHTS COME ON?
YES
CHECK ANTICOLLISION LIGHTS. REFER TO TROUBLE SYMPTOM TASK 9-6.3
NO
OPEN NO. 2 PDP. CHECK FOR 28VDC ON NO. 2 DC BUS. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W552-175-10 BETWEEN NO. 2 DC BUS 161E2 AND CB 111CB2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE NO. 2 REVERSE CURRENT CUTOUT RELAY 161K4

END OF TASK

9-1.13 OVERHEAD PANEL LIGHTS DO NOT COME ON, NO. 1 DC SYSTEM TURNED OFF

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

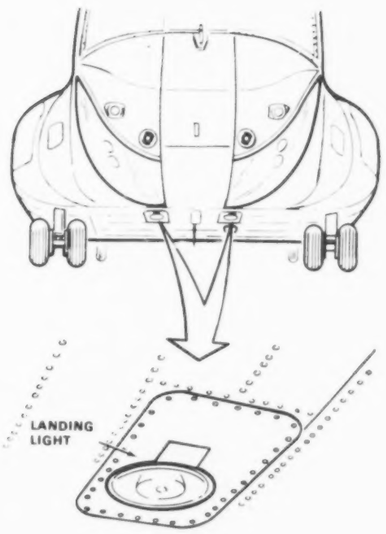
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

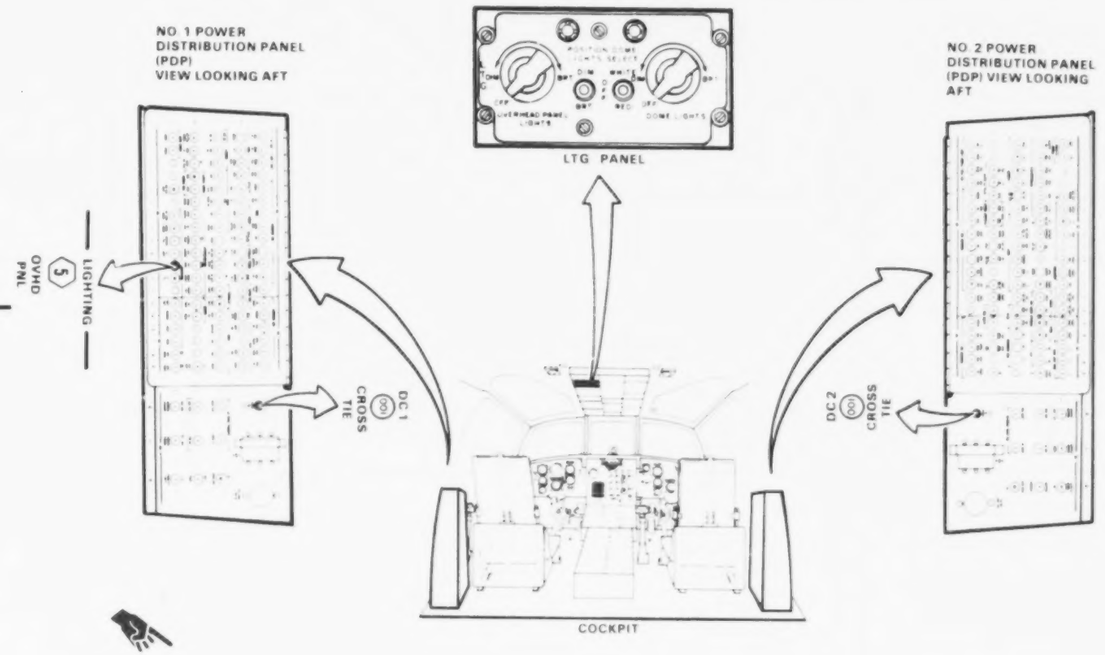
Materials:
None

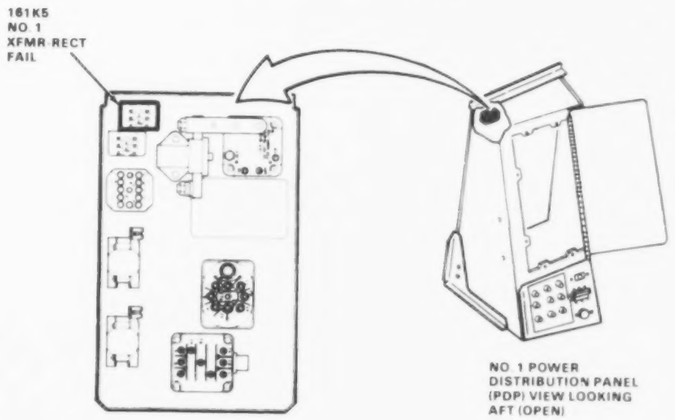
Personnel Required:
Medium Helicopter Repairer
Aircraft Electrician

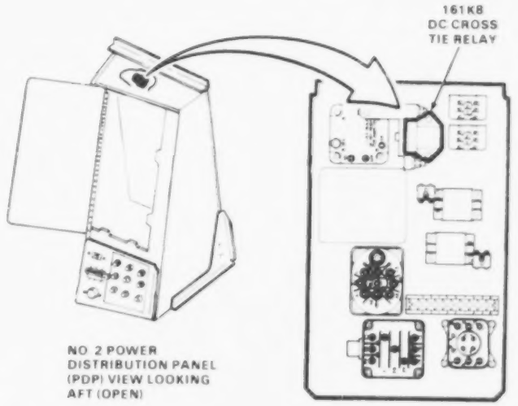
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power Disconnected
Hydraulic Power Off




NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
LTG PANEL
NO. 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
LIGHTING
OVHD PNL
DC 1 CROSS TIE
DC 2 CROSS TIE
COCKPIT





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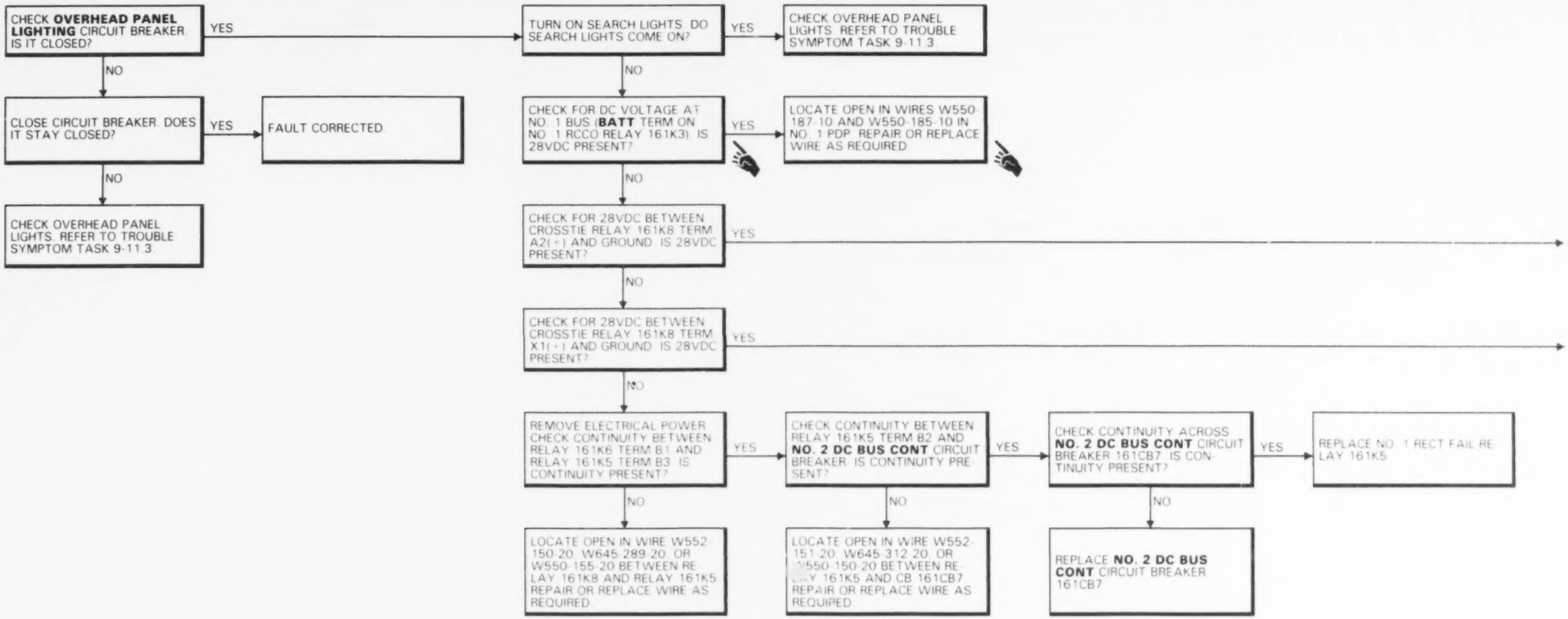
CHECK **OVERHEAD PANEL LIGHTING** CIRCUIT BREAKER. IS IT CLOSED?
YES
NO
CLOSE CIRCUIT BREAKER. DOES IT STAY CLOSED?
YES
FAULT CORRECTED.
NO
CHECK OVERHEAD PANEL LIGHTS. REFER TO TROUBLE SYMPTOM TASK 9-11.3.
TURN ON SEARCH LIGHTS. DO SEARCH LIGHTS COME ON?
YES
CHECK OVERHEAD PANEL LIGHTS. REFER TO TROUBLE SYMPTOM TASK 9-11.3.
NO
CHECK FOR DC VOLTAGE AT NO. 1 BUS (**BATT** TERM ON NO. 1 RCCO RELAY 161K3). IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRES W550-187-10 AND W550-185-10 IN NO. 1 PDP. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR 28VDC BETWEEN CROSSTIE RELAY 161K8 TERM A2(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
CHECK FOR 28VDC BETWEEN CROSSTIE RELAY 161K8 TERM X1(-) AND GROUND. IS 28VDC PRESENT?
YES
NO
REMOVE ELECTRICAL POWER. CHECK CONTINUITY BETWEEN RELAY 161K6 TERM B1 AND RELAY 161K5 TERM B3. IS CONTINUITY PRESENT?
YES
CHECK CONTINUITY BETWEEN RELAY 161K5 TERM B2 AND **NO. 2 DC BUS CONT** CIRCUIT BREAKER. IS CONTINUITY PRESENT?
YES
CHECK CONTINUITY ACROSS **NO. 2 DC BUS CONT** CIRCUIT BREAKER 161CB7. IS CONTINUITY PRESENT?
YES
REPLACE NO. 1 RECT FAIL RELAY 161K5.
NO
LOCATE OPEN IN WIRE W552-150-20, W645-289-20, OR W550-155-20 BETWEEN RELAY 161K8 AND RELAY 161K5. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W552-151-20, W645-312-20, OR W550-150-20 BETWEEN RELAY 161K5 AND CB 161CB7. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE **NO. 2 DC BUS CONT** CIRCUIT BREAKER 161CB7.

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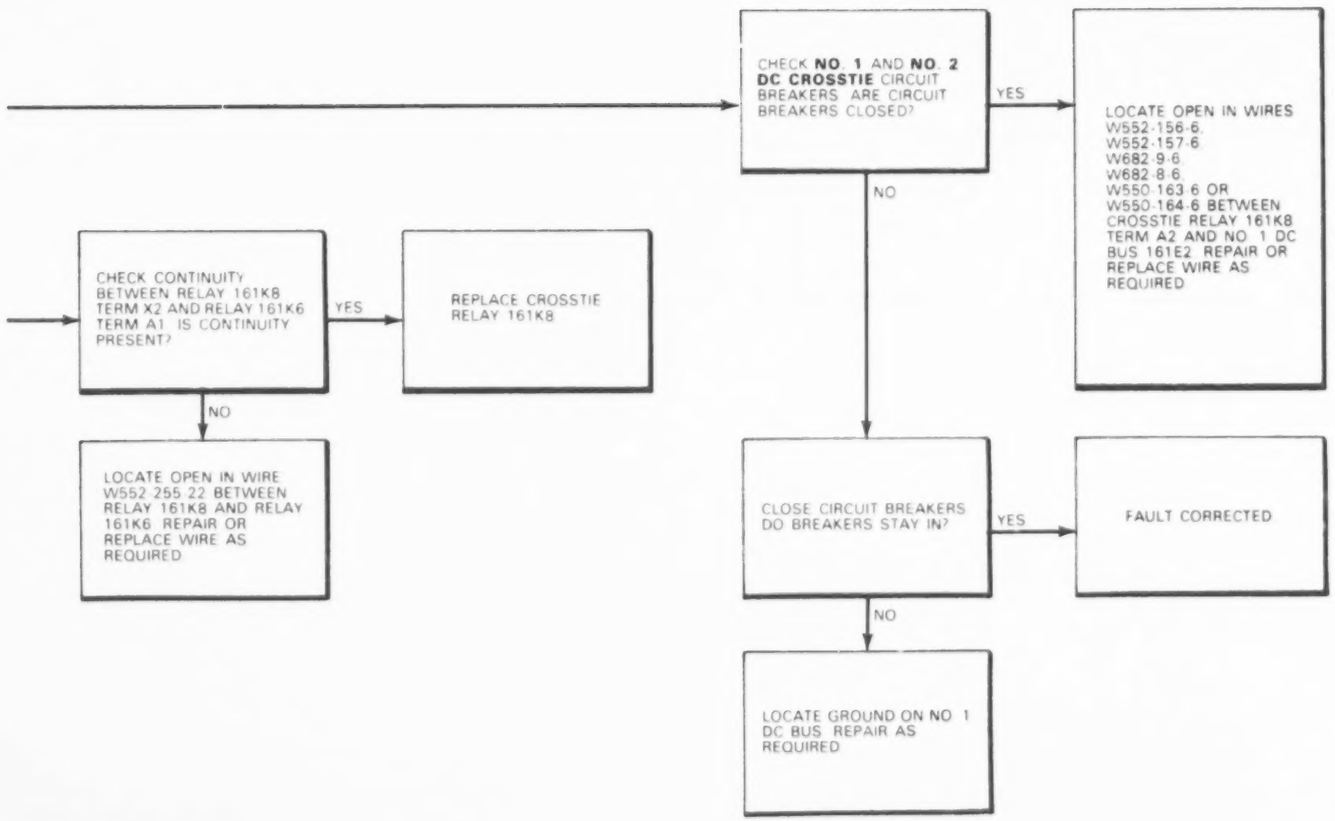
9-1.13 OVERHEAD PANEL LIGHTS DO NOT COME ON, NO. 1 DC SYSTEM TURNED OFF (Continued)


CHECK NO. 1 AND NO. 2 DC CROSSTIE CIRCUIT BREAKERS ARE CIRCUIT BREAKERS CLOSED?
YES
LOCATE OPEN IN WIRES W552-156-6, W552-157-6, W682-9-6, W682-8-6, W550-163-6 OR W550-164-6 BETWEEN CROSSTIE RELAY 161K8 TERM A2 AND NO. 1 DC BUS 161E2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
CHECK CONTINUITY BETWEEN RELAY 161K8 TERM X2 AND RELAY 161K6 TERM A1. IS CONTINUITY PRESENT?
YES
REPLACE CROSSTIE RELAY 161K8
NO
LOCATE OPEN IN WIRE W552-255-22 BETWEEN RELAY 161K8 AND RELAY 161K6. REPAIR OR REPLACE WIRE AS REQUIRED
CLOSE CIRCUIT BREAKERS. DO BREAKERS STAY IN?
YES
FAULT CORRECTED
NO
LOCATE GROUND ON NO. 1 DC BUS. REPAIR AS REQUIRED

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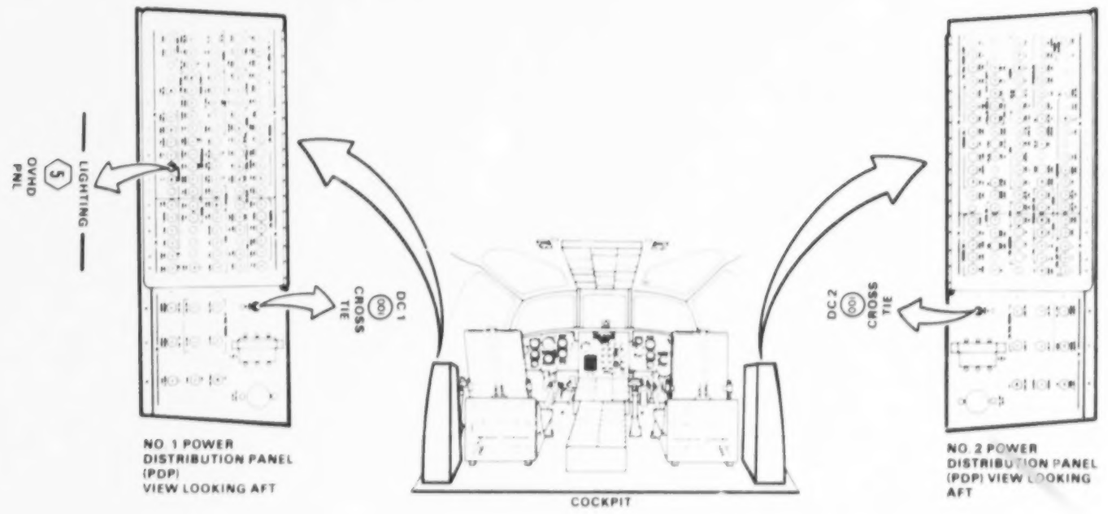
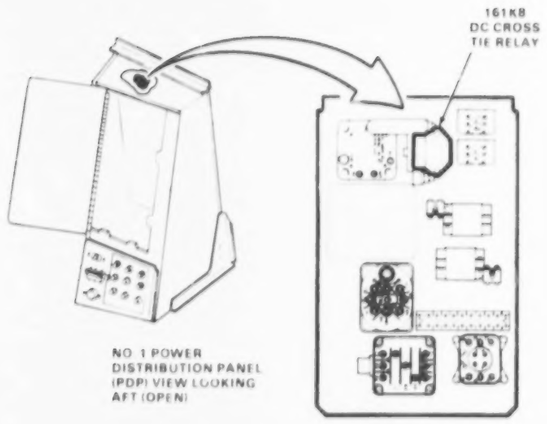
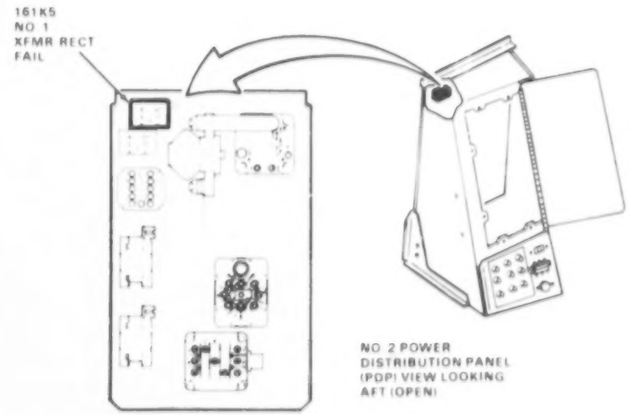
9-1.13 OVERHEAD PANEL LIGHTS DO NOT COME ON, NO. 1 DC SYSTEM TURNED OFF (Continued)







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END OF TASK

9-1.14 OVERHEAD PANEL LIGHTS DO NOT COME ON, NO. 1 DC SYSTEM TURNED ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

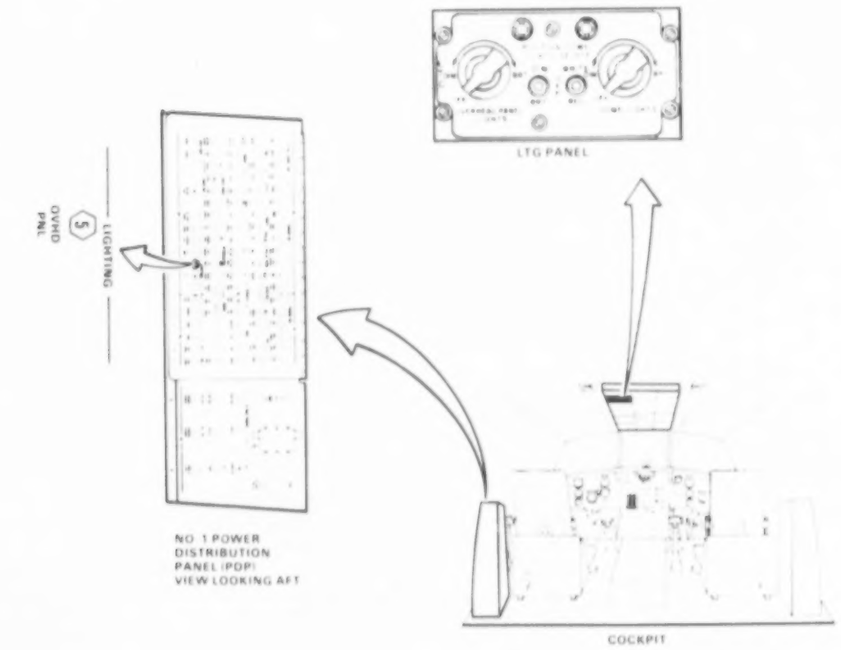
Tools:
Electrical Repairer's Kit
NSN 5180-00-323-4915
Multimeter

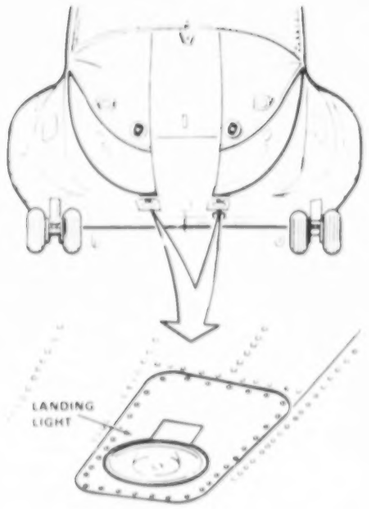
Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off





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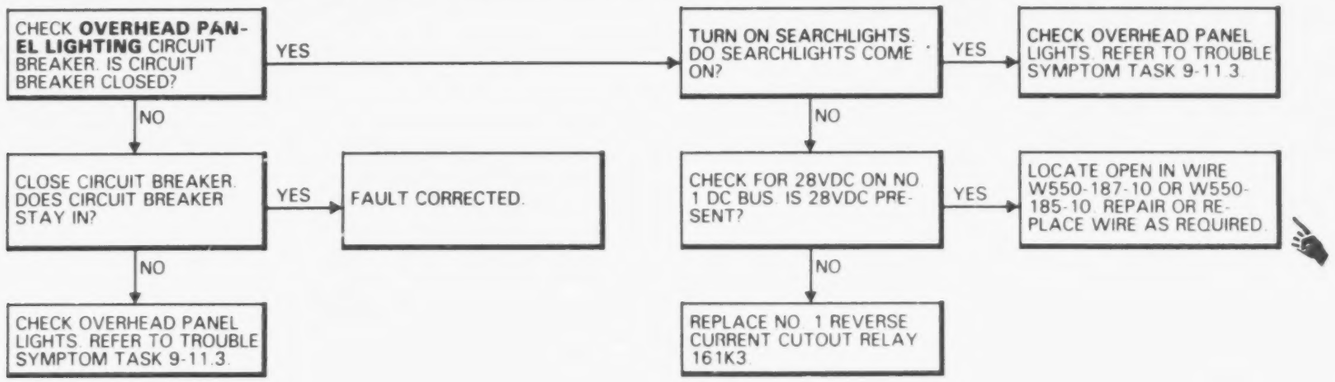

CHECK **OVERHEAD PANEL LIGHTING** CIRCUIT BREAKER. IS CIRCUIT BREAKER CLOSED?
YES
NO
CLOSE CIRCUIT BREAKER. DOES CIRCUIT BREAKER STAY IN?
YES
FAULT CORRECTED.
NO
CHECK OVERHEAD PANEL LIGHTS. REFER TO TROUBLE SYMPTOM TASK 9-11.3.
TURN ON SEARCHLIGHTS. DO SEARCHLIGHTS COME ON?
YES
CHECK OVERHEAD PANEL LIGHTS. REFER TO TROUBLE SYMPTOM TASK 9-11.3.
NO
CHECK FOR 28VDC ON NO. 1 DC BUS. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W550-187-10 OR W550-185-10. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE NO. 1 REVERSE CURRENT CUTOUT RELAY 161K3.

END OF TASK

9-1.15 ANTICOLLISION LIGHTS DO NOT FLASH, NO. 2 DC SYSTEM TURNED OFF

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

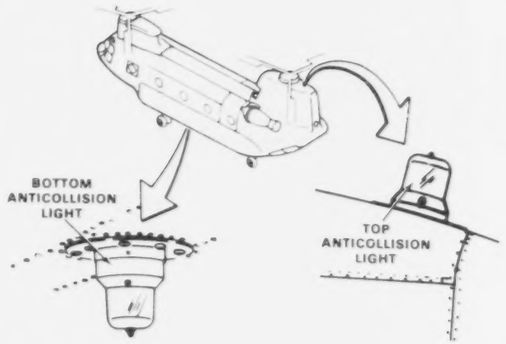
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

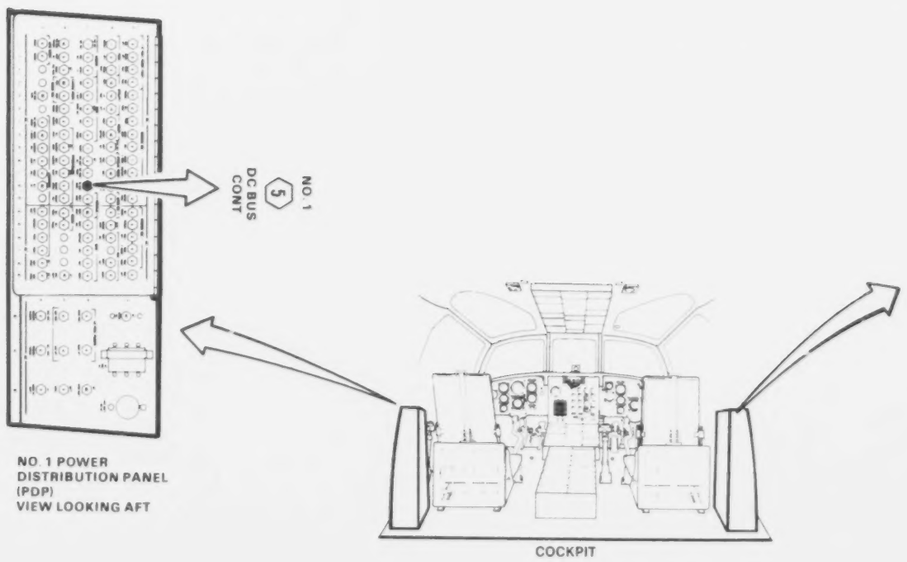
Materials:
None

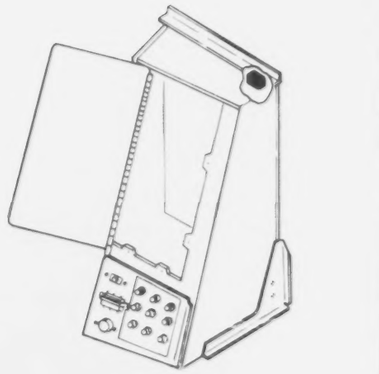
Personnel Required:
Medium Helicopter Repairer
Aircraft Electrician

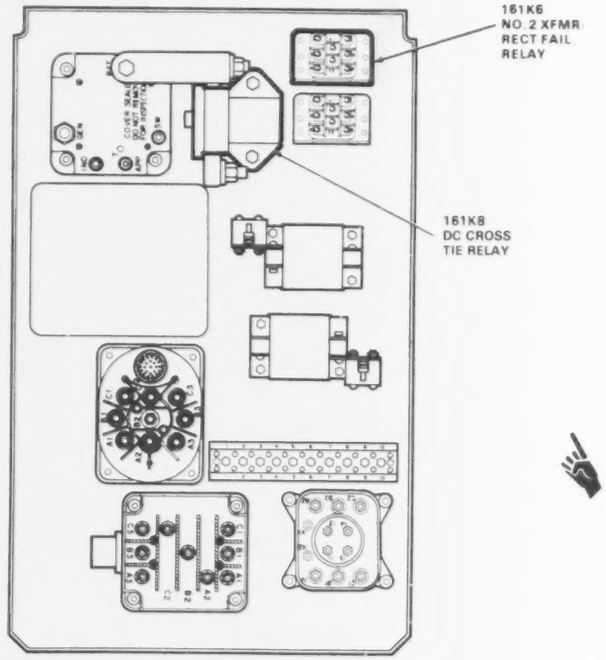
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off









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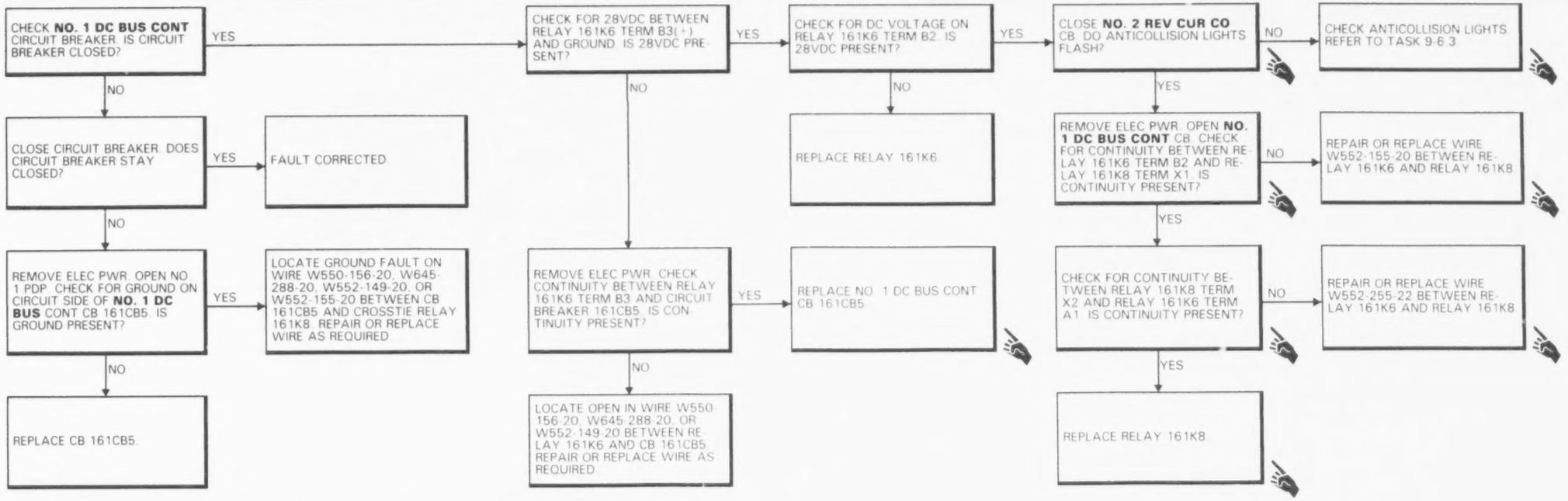

CHECK NO. 1 DC BUS CONT CIRCUIT BREAKER. IS CIRCUIT BREAKER CLOSED?
YES
NO
CLOSE CIRCUIT BREAKER. DOES CIRCUIT BREAKER STAY CLOSED?
YES
FAULT CORRECTED
NO
REMOVE ELEC PWR. OPEN NO. 1 PDP. CHECK FOR GROUND ON CIRCUIT SIDE OF NO. 1 DC BUS CONT CB 161CB5. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W550-156-20, W645-288-20, W552-149-20, OR W552-155-20 BETWEEN CB 161CB5 AND CROSSTIE RELAY 161K8. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE CB 161CB5.
CHECK FOR 28VDC BETWEEN RELAY 161K6 TERM B3(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
REMOVE ELEC PWR. CHECK CONTINUITY BETWEEN RELAY 161K6 TERM B3 AND CIRCUIT BREAKER 161CB5. IS CONTINUITY PRESENT?
YES
REPLACE NO. 1 DC BUS CONT CB 161CB5
NO
LOCATE OPEN IN WIRE W550-156-20, W645-288-20, OR W552-149-20 BETWEEN RELAY 161K6 AND CB 161CB5. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR DC VOLTAGE ON RELAY 161K6 TERM B2. IS 28VDC PRESENT?
YES
NO
REPLACE RELAY 161K6.
CLOSE NO. 2 REV CUR CO CB. DO ANTICOLLISION LIGHTS FLASH?
NO
CHECK ANTICOLLISION LIGHTS. REFER TO TASK 9-6.3.
YES
REMOVE ELEC PWR. OPEN NO. 1 DC BUS CONT CB. CHECK FOR CONTINUITY BETWEEN RELAY 161K6 TERM B2 AND RELAY 161K8 TERM X1. IS CONTINUITY PRESENT?
NO
REPAIR OR REPLACE WIRE W552-155-20 BETWEEN RELAY 161K6 AND RELAY 161K8.
YES
CHECK FOR CONTINUITY BETWEEN RELAY 161K8 TERM X2 AND RELAY 161K6 TERM A1. IS CONTINUITY PRESENT?
NO
REPAIR OR REPLACE WIRE W552-255-22 BETWEEN RELAY 161K6 AND RELAY 161K8.
YES
REPLACE RELAY 161K8.

END OF TASK

9-1.16 CABIN AND RAMP LIGHTS NOT POWERED FROM SWITCHED BATTERY BUS

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

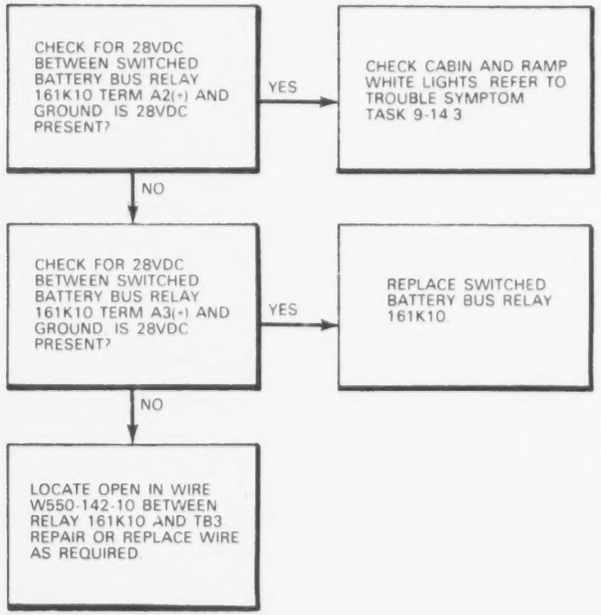
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Multimeter

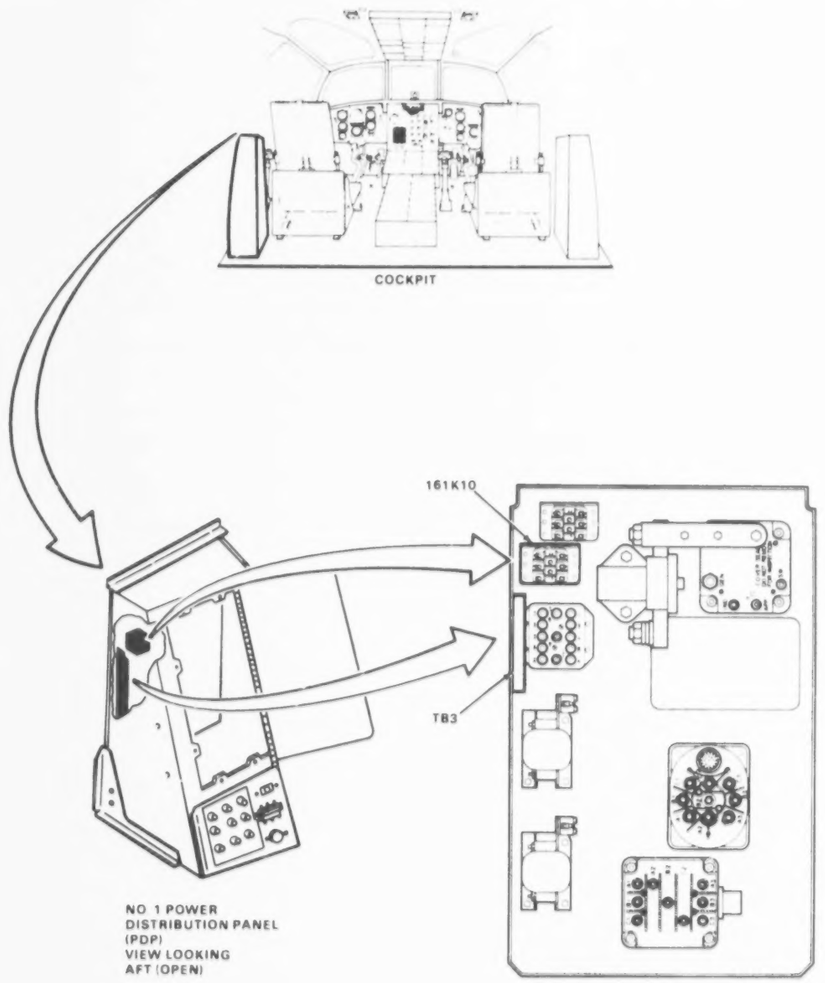
Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off


CHECK FOR 28VDC BETWEEN SWITCHED BATTERY BUS RELAY 161K10 TERM A2(+) AND GROUND IS 28VDC PRESENT?
YES
CHECK CABIN AND RAMP WHITE LIGHTS REFER TO TROUBLE SYMPTOM TASK 9-14.3
NO
CHECK FOR 28VDC BETWEEN SWITCHED BATTERY BUS RELAY 161K10 TERM A3(+) AND GROUND IS 28VDC PRESENT?
YES
REPLACE SWITCHED BATTERY BUS RELAY 161K10
NO
LOCATE OPEN IN WIRE W550-142-10 BETWEEN RELAY 161K10 AND TB3 REPAIR OR REPLACE WIRE AS REQUIRED



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END OF TASK

9-1.17 NO. 1 AND NO. 2 RECT OFF CAPSULE OUT WHEN EXTERNAL DC SUPPLY CONNECTED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

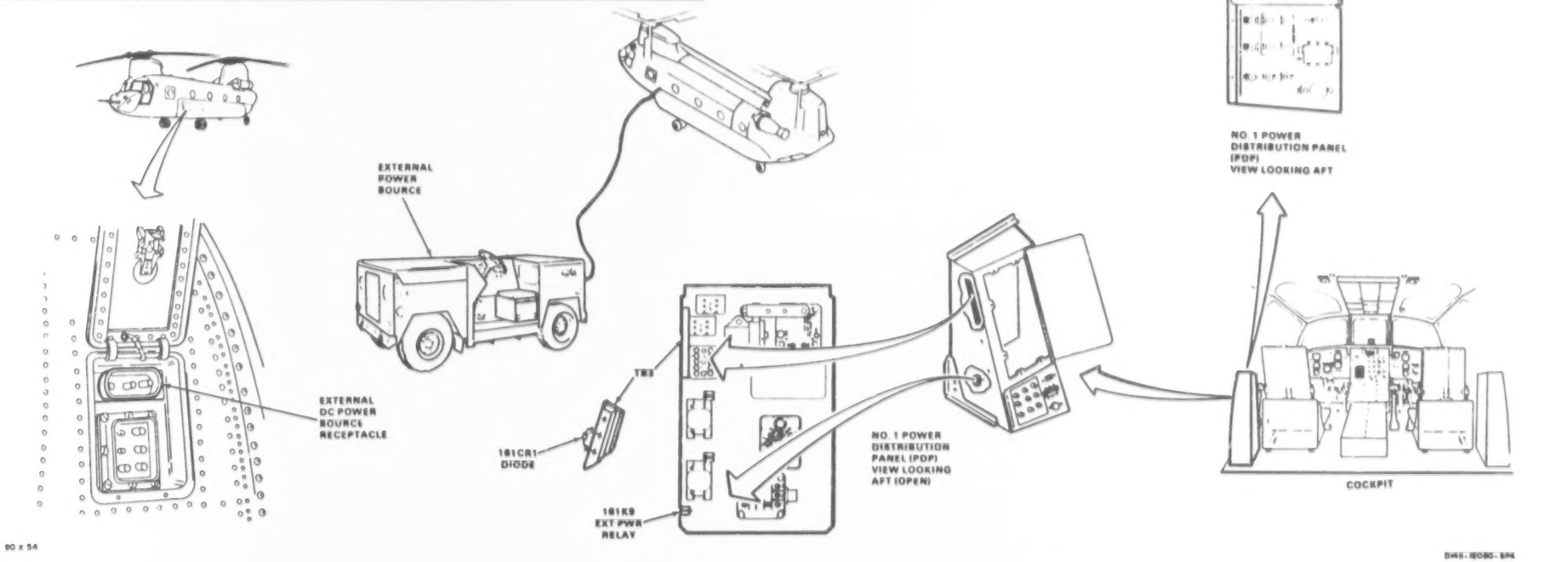
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Aircraft Mechanic's Tool Kit
NSN 5180-00-323-4692
Multimeter

Materials:
None

Personnel Required:
67U20 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off


EXTERNAL POWER SOURCE
EXTERNAL DC POWER SOURCE RECEPTACLE
TB3
181CR1 DIODE
181K9 EXT PWR RELAY
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT (OPEN)
EXT PWR CONT
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
COCKPIT

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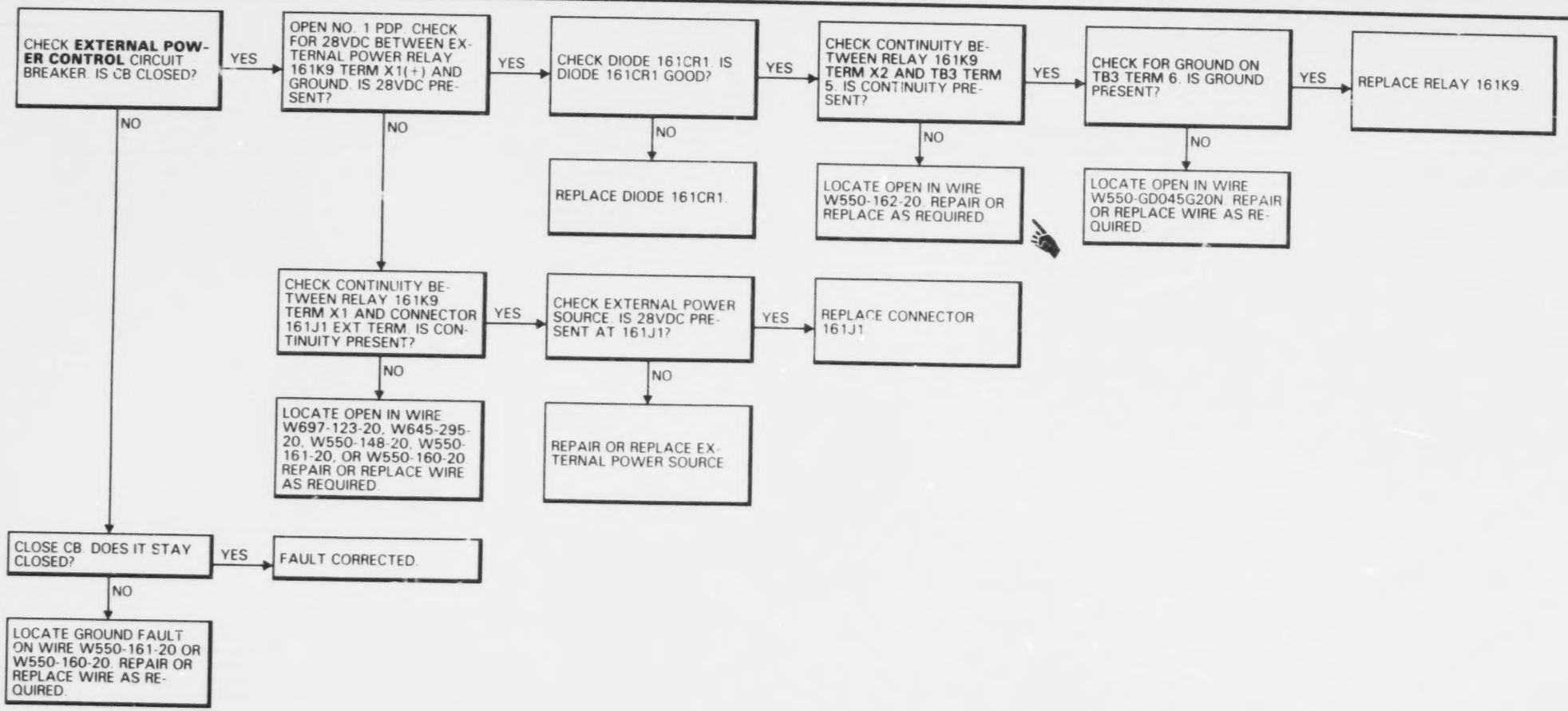
9-1.17 NO. 1 AND NO. 2 RECT OFF CAPSULE OUT WHEN EXTERNAL DC SUPPLY CONNECTED (Continued)


CHECK EXTERNAL POWER CONTROL CIRCUIT BREAKER. IS CB CLOSED?
YES
NO
OPEN NO. 1 PDP. CHECK FOR 28VDC BETWEEN EXTERNAL POWER RELAY 161K9 TERM X1(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
CHECK DIODE 161CR1. IS DIODE 161CR1 GOOD?
YES
NO
REPLACE DIODE 161CR1.
CHECK CONTINUITY BETWEEN RELAY 161K9 TERM X2 AND TB3 TERM 5. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W550-162-20. REPAIR OR REPLACE AS REQUIRED.
CHECK FOR GROUND ON TB3 TERM 6. IS GROUND PRESENT?
YES
NO
LOCATE OPEN IN WIRE W550-GD045G20N. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE RELAY 161K9.
CHECK CONTINUITY BETWEEN RELAY 161K9 TERM X1 AND CONNECTOR 161J1 EXT TERM. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W697-123-20, W645-295-20, W550-148-20, W550-161-20, OR W550-160-20. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK EXTERNAL POWER SOURCE. IS 28VDC PRESENT AT 161J1?
YES
NO
REPAIR OR REPLACE EXTERNAL POWER SOURCE.
REPLACE CONNECTOR 161J1.
CLOSE CB. DOES IT STAY CLOSED?
YES
NO
FAULT CORRECTED.
LOCATE GROUND FAULT ON WIRE W550-161-20 OR W550-160-20. REPAIR OR REPLACE WIRE AS REQUIRED.

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END OF TASK

9-1.18 EXTERNAL POWER CAPSULE OUT WHEN EXTERNAL DC SUPPLY CONNECTED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

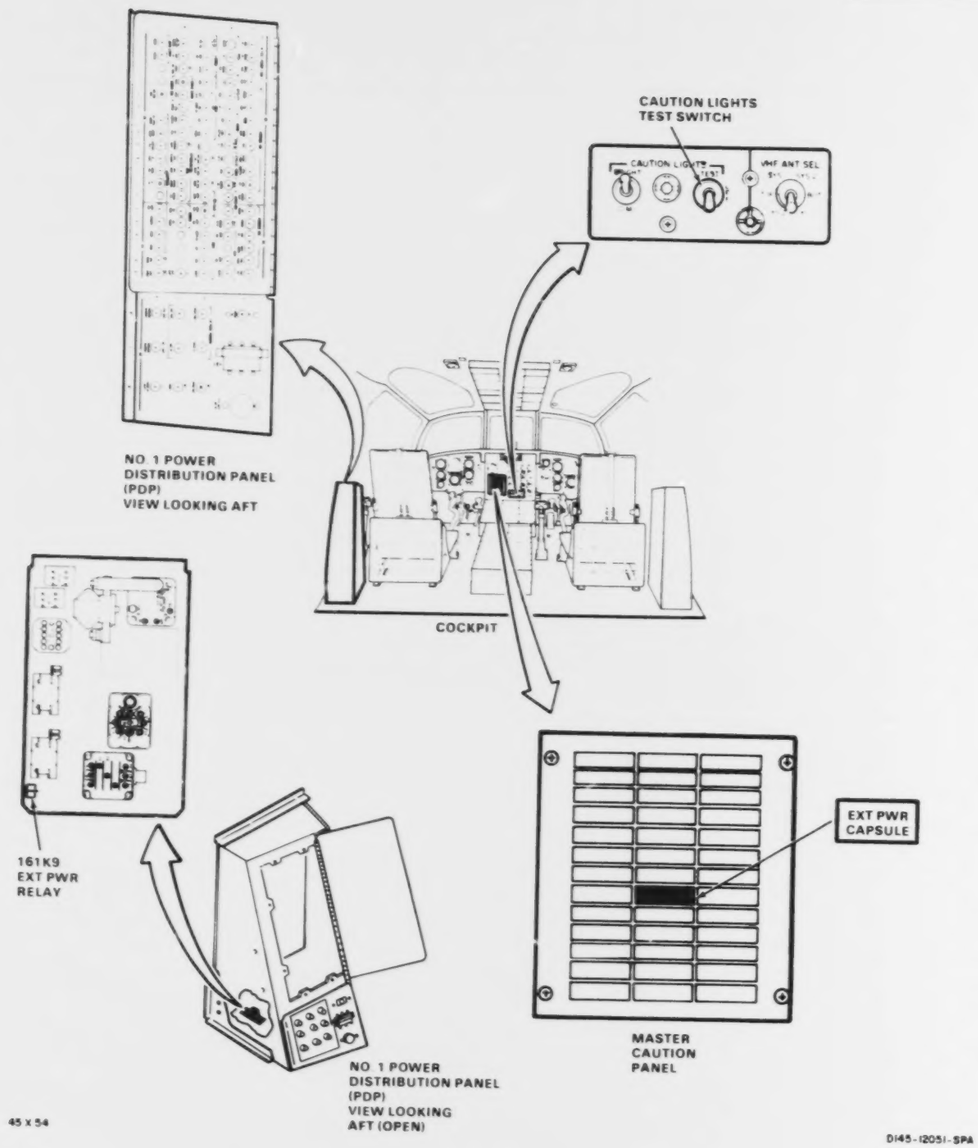
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off


CAUTION LIGHTS TEST SWITCH
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
COCKPIT
161K9 EXT PWR RELAY
EXT PWR CAPSULE
MASTER CAUTION PANEL
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT (OPEN)
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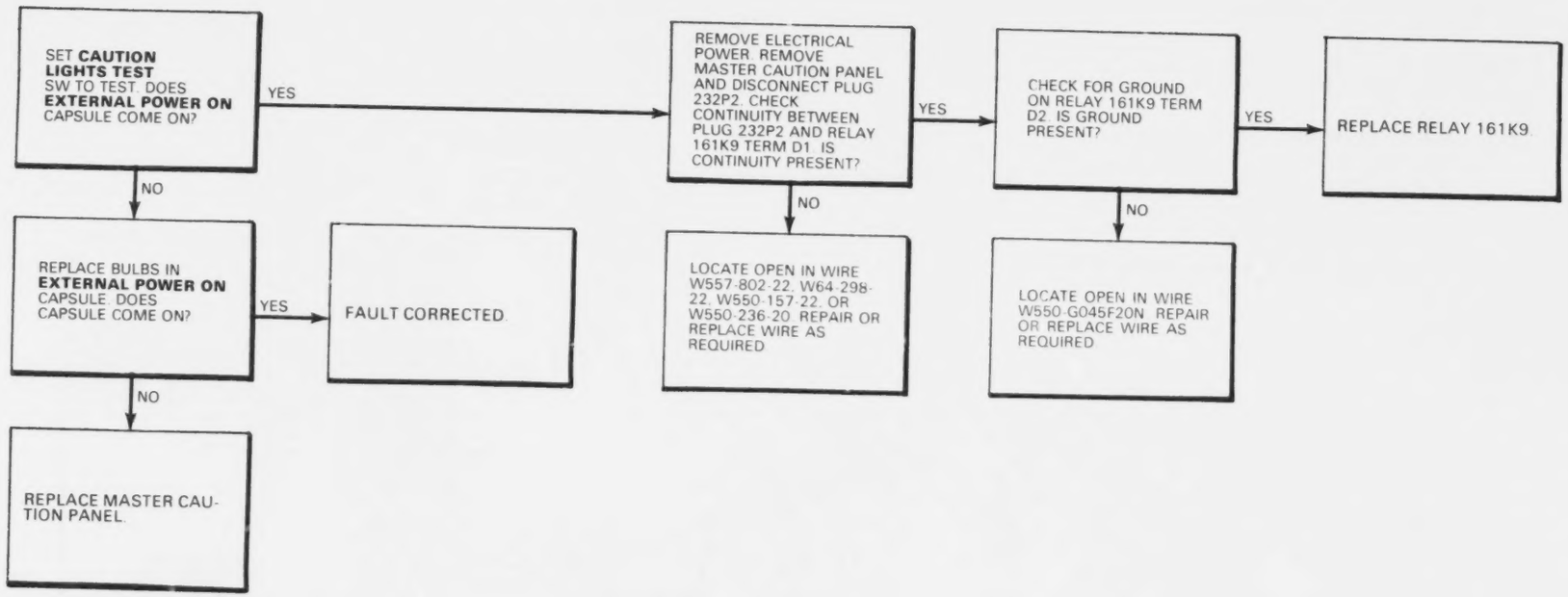
9-1.18 EXTERNAL POWER CAPSULE OUT WHEN EXTERNAL DC SUPPLY CONNECTED (Continued)


SET CAUTION LIGHTS TEST SW TO TEST. DOES EXTERNAL POWER ON CAPSULE COME ON?
YES
NO
REMOVE ELECTRICAL POWER. REMOVE MASTER CAUTION PANEL AND DISCONNECT PLUG 232P2. CHECK CONTINUITY BETWEEN PLUG 232P2 AND RELAY 161K9 TERM D1. IS CONTINUITY PRESENT?
YES
NO
CHECK FOR GROUND ON RELAY 161K9 TERM D2. IS GROUND PRESENT?
YES
NO
REPLACE RELAY 161K9.
LOCATE OPEN IN WIRE W557-802-22, W64-298-22, W550-157-22, OR W550-236-20. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE OPEN IN WIRE W550-G045F20N. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE BULBS IN EXTERNAL POWER ON CAPSULE. DOES CAPSULE COME ON?
YES
NO
FAULT CORRECTED.
REPLACE MASTER CAUTION PANEL.

END OF TASK

9-1.19 EXTERNAL DC SUPPLY DOES NOT POWER DC BUSES

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

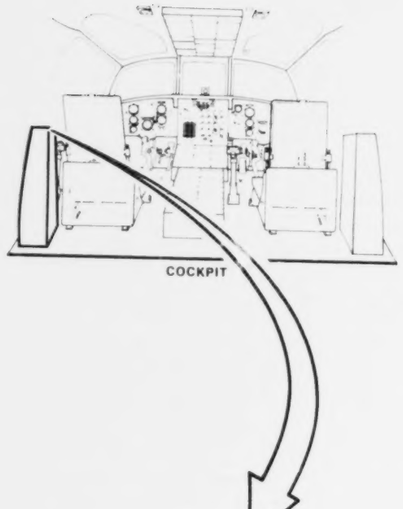
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Multimeter

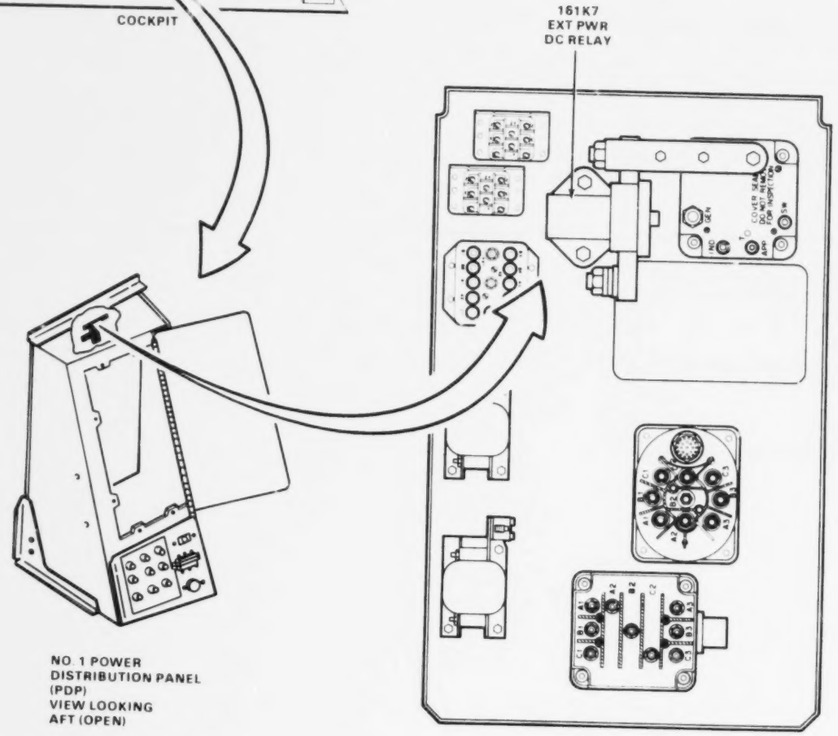
Materials:
None

Personnel Required:
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

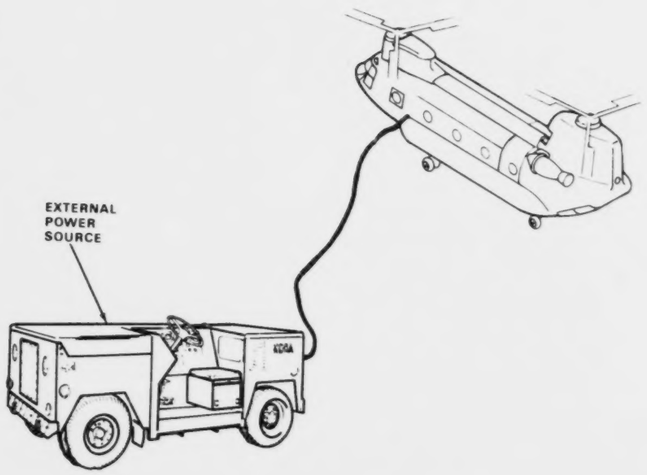
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off





NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT (OPEN)



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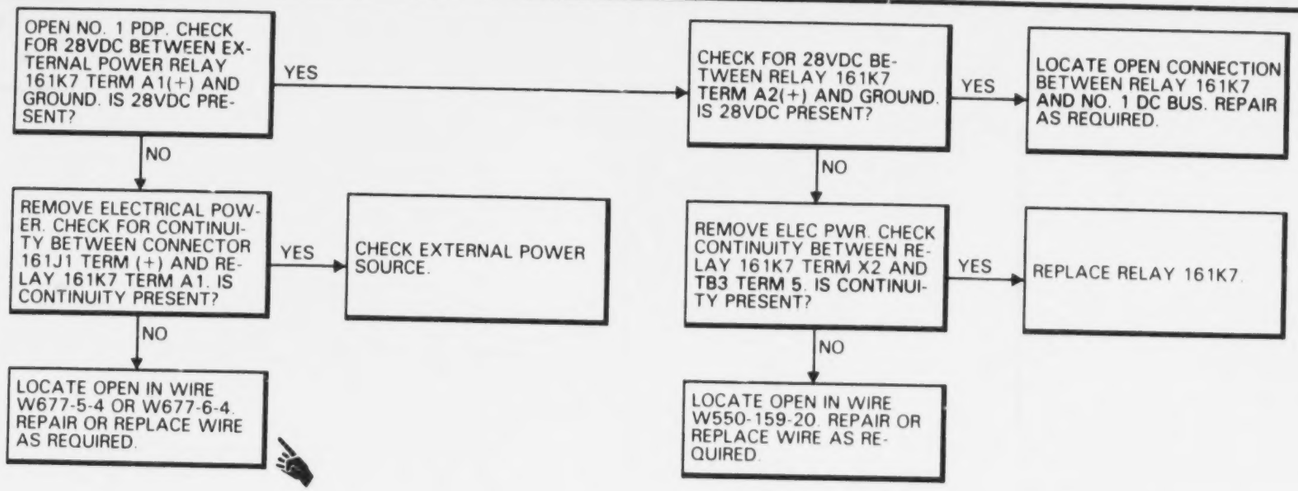

OPEN NO. 1 PDP. CHECK FOR 28VDC BETWEEN EXTERNAL POWER RELAY 161K7 TERM A1(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
REMOVE ELECTRICAL POWER. CHECK FOR CONTINUITY BETWEEN CONNECTOR 161J1 TERM (+) AND RELAY 161K7 TERM A1. IS CONTINUITY PRESENT?
YES
CHECK EXTERNAL POWER SOURCE.
NO
LOCATE OPEN IN WIRE W677-5-4 OR W677-6-4. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR 28VDC BETWEEN RELAY 161K7 TERM A2(+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN CONNECTION BETWEEN RELAY 161K7 AND NO. 1 DC BUS. REPAIR AS REQUIRED.
NO
REMOVE ELEC PWR. CHECK CONTINUITY BETWEEN RELAY 161K7 TERM X2 AND TB3 TERM 5. IS CONTINUITY PRESENT?
YES
REPLACE RELAY 161K7.
NO
LOCATE OPEN IN WIRE W550-159-20. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-1.20 SWITCHED BATTERY BUS OR ESSENTIAL DC BUS NOT POWERED BY NO. 1 DC BUS

FAULT ISOLATION PROCEDURE
INITIAL SETUP

Applicable Configurations:
All

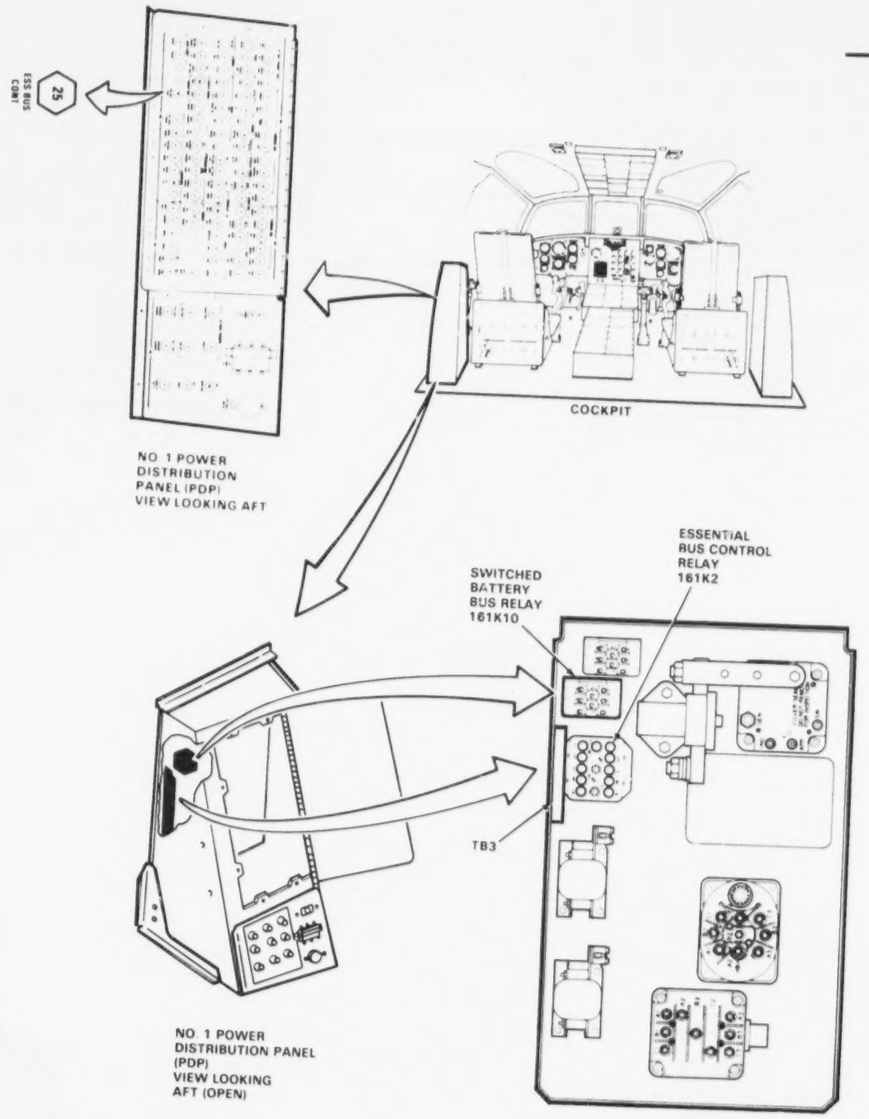
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power On


25
ESS BUS CKBT
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
COCKPIT
ESSENTIAL BUS CONTROL RELAY 161K2
SWITCHED BATTERY BUS RELAY 161K10
TB3
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT (OPEN)

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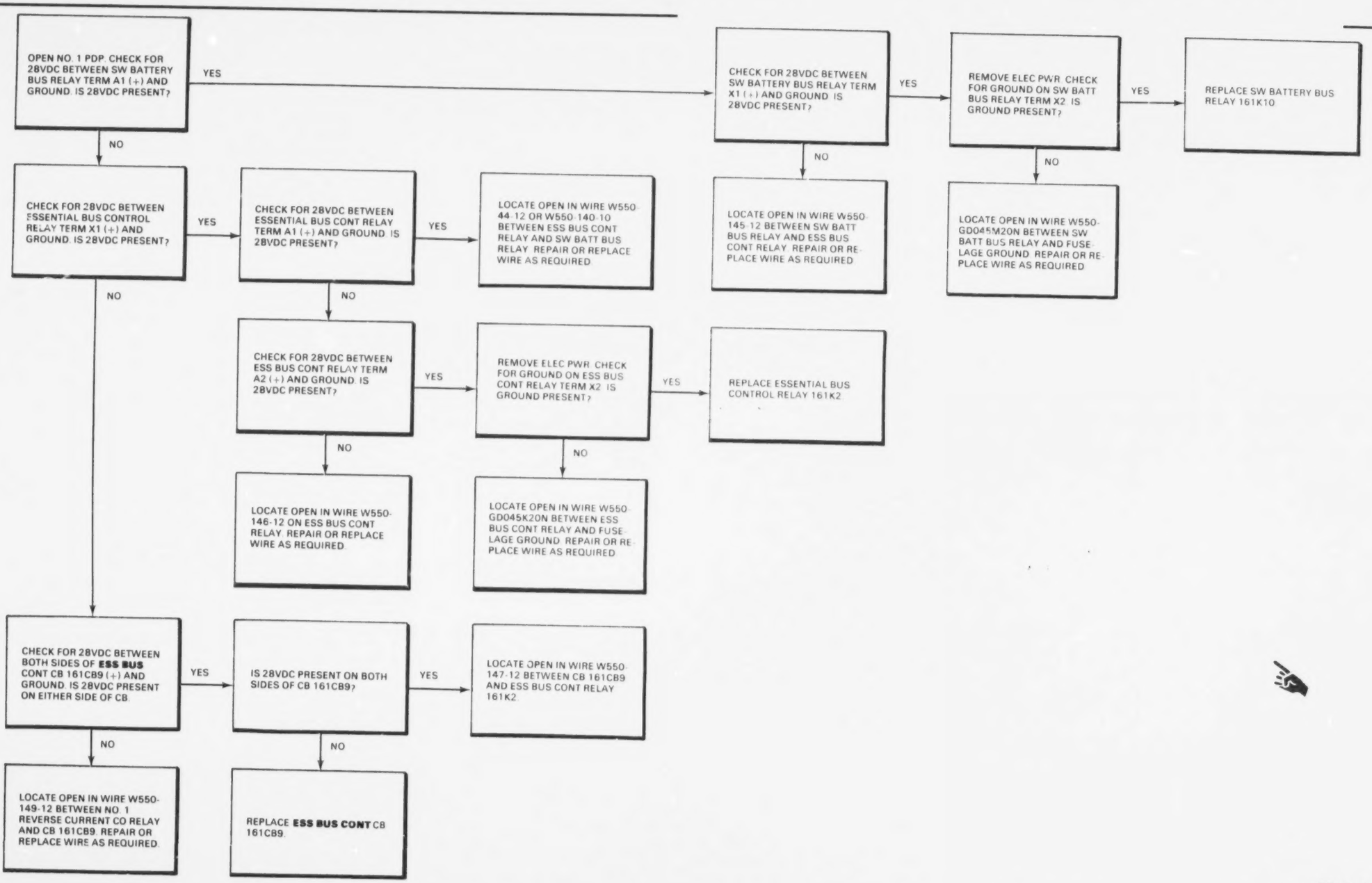
9-1.20 SWITCHED BATTERY BUS OR ESSENTIAL DC BUS NOT POWERED BY NO. 1 DC BUS (Continued)

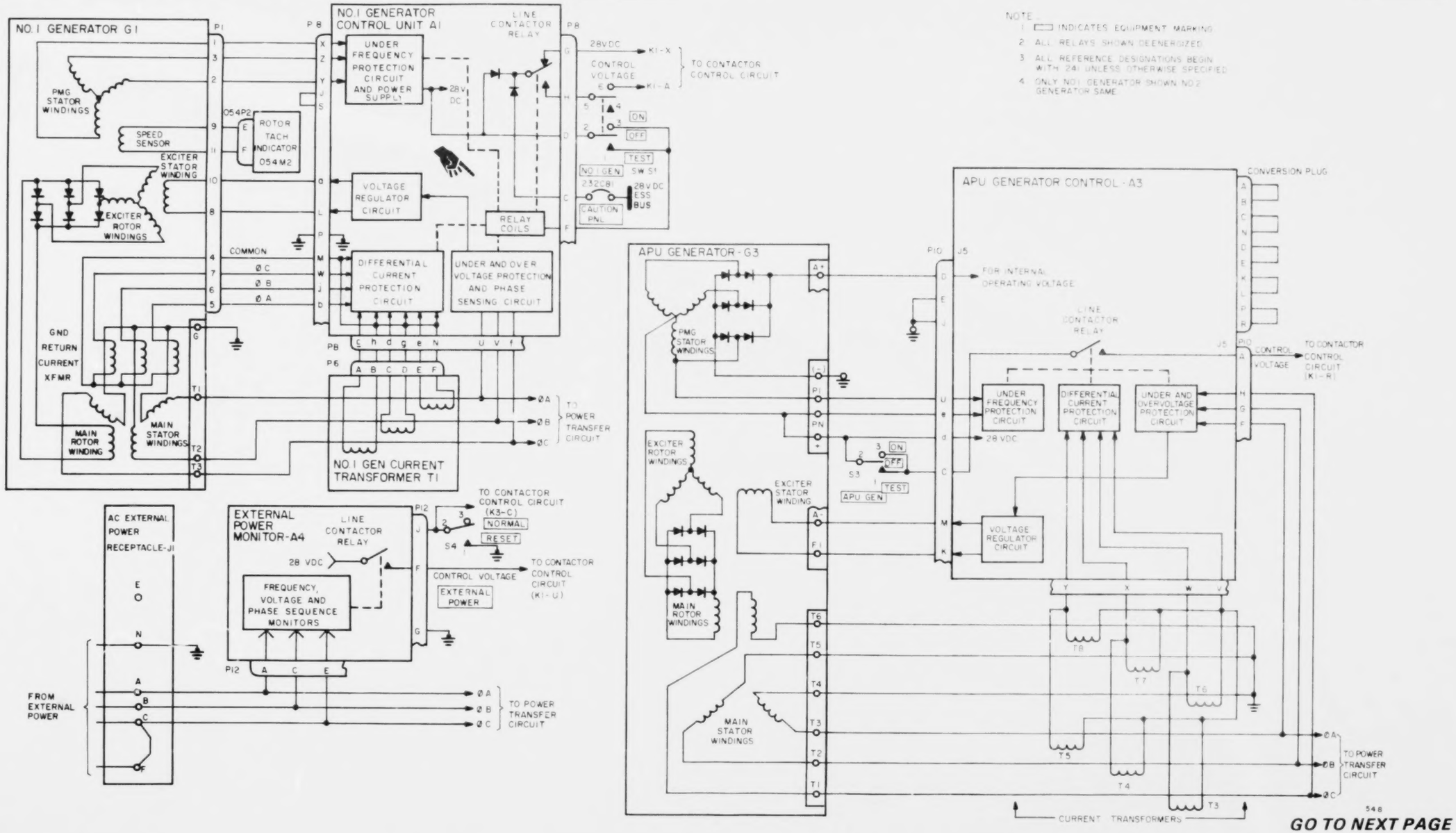

OPEN NO. 1 PDP. CHECK FOR 28VDC BETWEEN SW BATTERY BUS RELAY TERM A1 (+) AND GROUND. IS 28VDC PRESENT?
YES
NO
CHECK FOR 28VDC BETWEEN SW BATTERY BUS RELAY TERM X1 (+) AND GROUND. IS 28VDC PRESENT?
YES
NO
REMOVE ELEC PWR. CHECK FOR GROUND ON SW BATT BUS RELAY TERM X2. IS GROUND PRESENT?
YES
NO
REPLACE SW BATTERY BUS RELAY 161K10
LOCATE OPEN IN WIRE W550-145-12 BETWEEN SW BATT BUS RELAY AND ESS BUS CONT RELAY. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE OPEN IN WIRE W550-GD045M20N BETWEEN SW BATT BUS RELAY AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR 28VDC BETWEEN ESSENTIAL BUS CONTROL RELAY TERM X1 (+) AND GROUND. IS 28VDC PRESENT?
YES
NO
CHECK FOR 28VDC BETWEEN ESSENTIAL BUS CONT RELAY TERM A1 (+) AND GROUND. IS 28VDC PRESENT?
YES
NO
LOCATE OPEN IN WIRE W550-44-12 OR W550-140-10 BETWEEN ESS BUS CONT RELAY AND SW BATT BUS RELAY. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR 28VDC BETWEEN ESS BUS CONT RELAY TERM A2 (+) AND GROUND. IS 28VDC PRESENT?
YES
NO
REMOVE ELEC PWR. CHECK FOR GROUND ON ESS BUS CONT RELAY TERM X2. IS GROUND PRESENT?
YES
NO
REPLACE ESSENTIAL BUS CONTROL RELAY 161K2
LOCATE OPEN IN WIRE W550-146-12 ON ESS BUS CONT RELAY. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE OPEN IN WIRE W550-GD045K20N BETWEEN ESS BUS CONT RELAY AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR 28VDC BETWEEN BOTH SIDES OF ESS BUS CONT CB 161CB9 (+) AND GROUND. IS 28VDC PRESENT ON EITHER SIDE OF CB.
YES
NO
IS 28VDC PRESENT ON BOTH SIDES OF CB 161CB9?
YES
NO
LOCATE OPEN IN WIRE W550-147-12 BETWEEN CB 161CB9 AND ESS BUS CONT RELAY 161K2
LOCATE OPEN IN WIRE W550-149-12 BETWEEN NO. 1 REVERSE CURRENT CO RELAY AND CB 161CB9. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE ESS BUS CONT CB 161CB9.

END OF TASK

9-2 AC POWER SYSTEM

9-2 AC POWER SYSTEM

9-2.1 AC POWER SYSTEM SCHEMATIC



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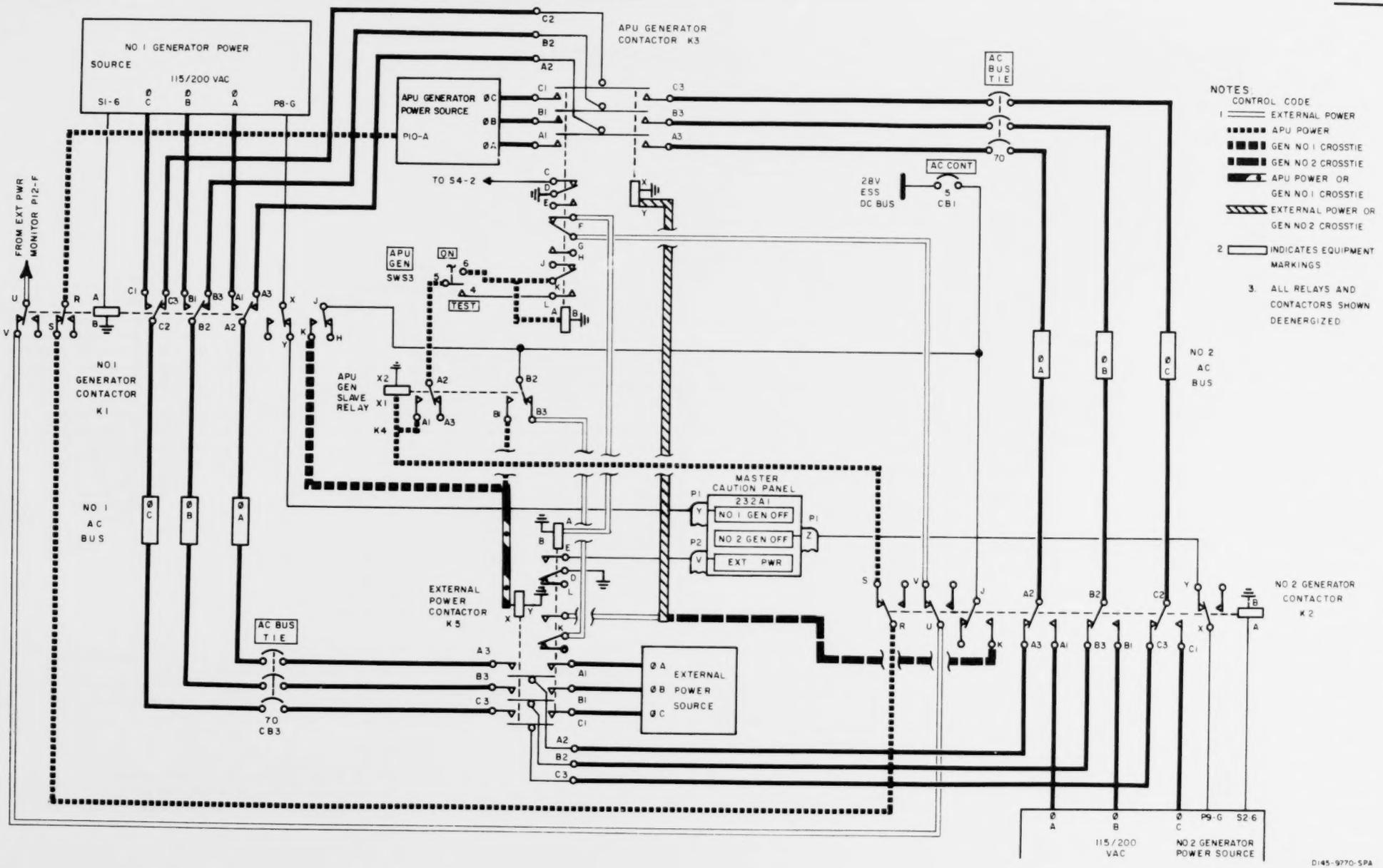
9-2.1 AC POWER SYSTEM SCHEMATIC (Continued)



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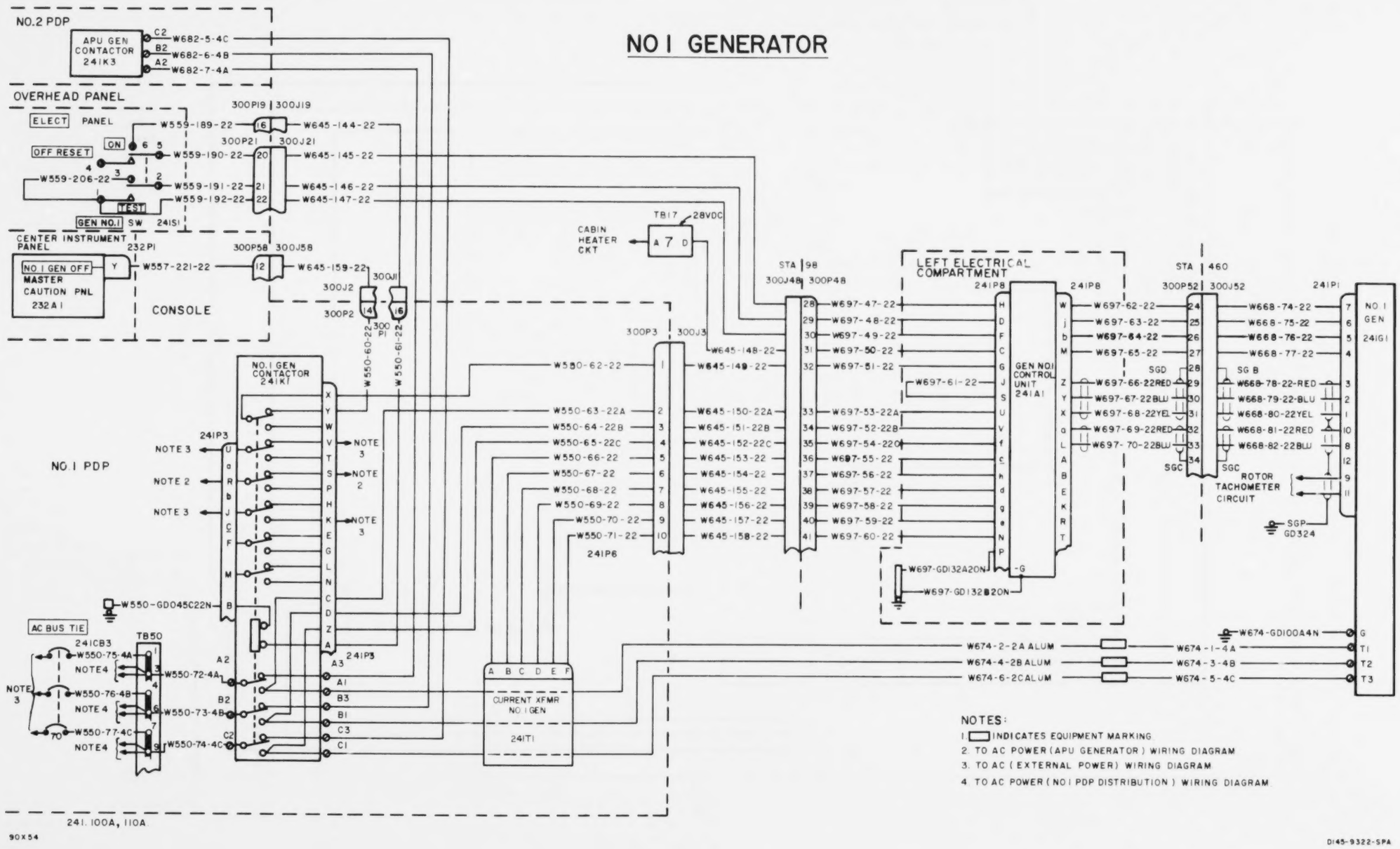
9-2.2 AC POWER WIRING DIAGRAM



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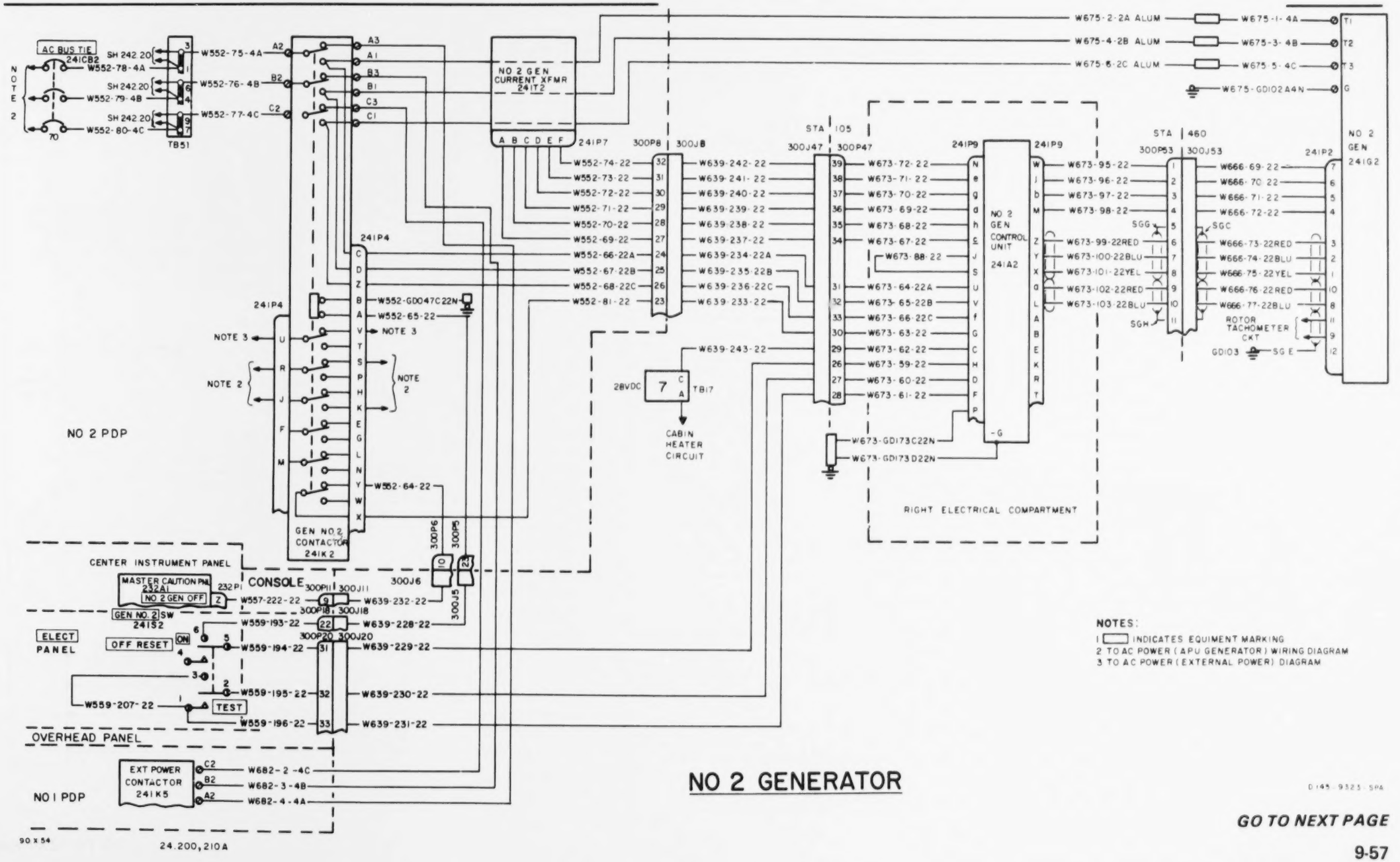
9-2.2 AC POWER WIRING DIAGRAM (Continued)



NOTES:

1 ▭ INDICATES EQUIMENT MARKING
2 TO AC POWER (APU GENERATOR) WIRING DIAGRAM
3 TO AC POWER (EXTERNAL POWER) DIAGRAM

NO 2 GENERATOR

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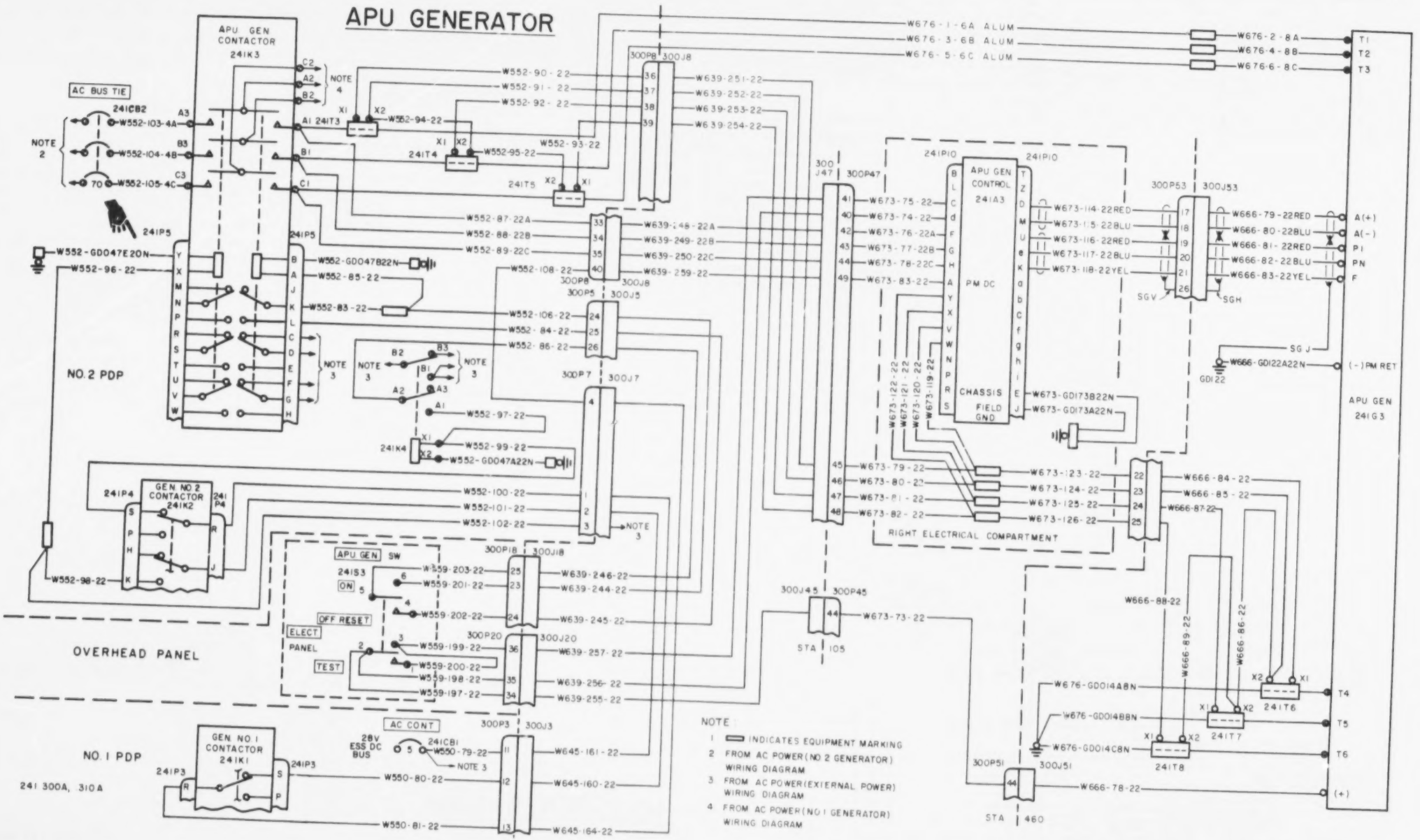
9-2.2 AC POWER WIRING DIAGRAM (Continued)



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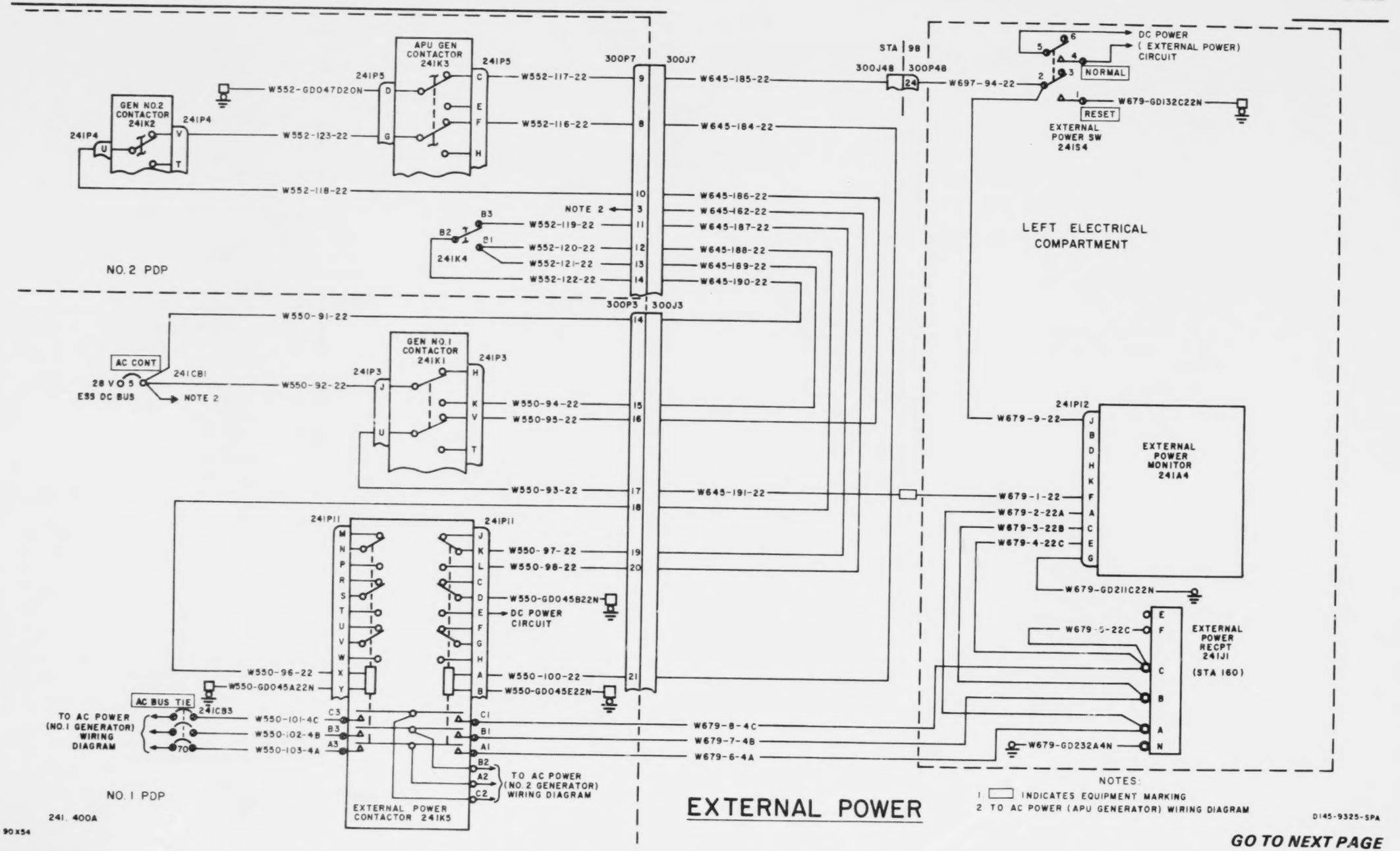
9-2.2 AC POWER WIRING DIAGRAM (Continued)



NOTES:
1 ▭ INDICATES EQUIPMENT MARKING
2 TO AC POWER (APU GENERATOR) WIRING DIAGRAM

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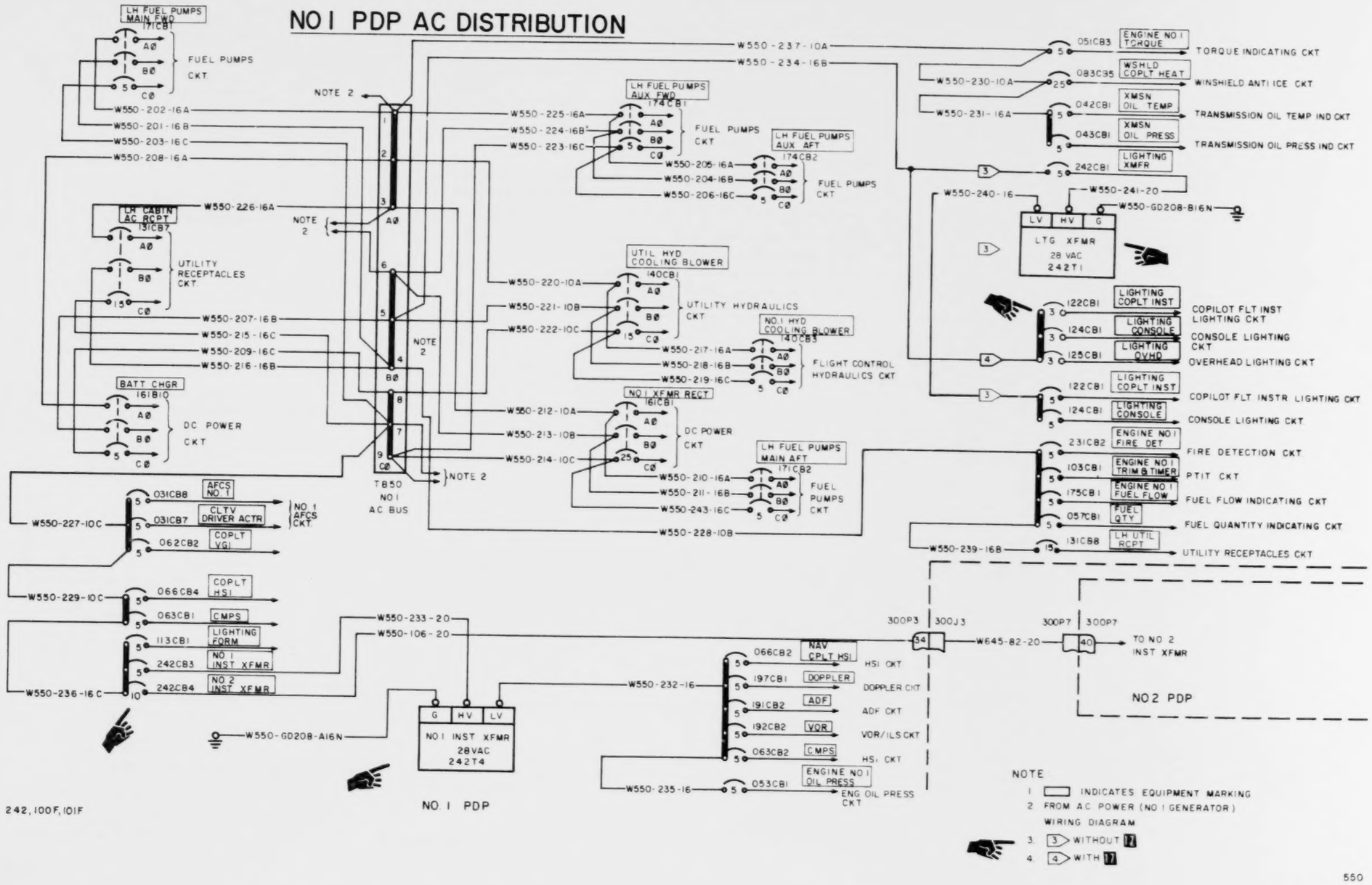

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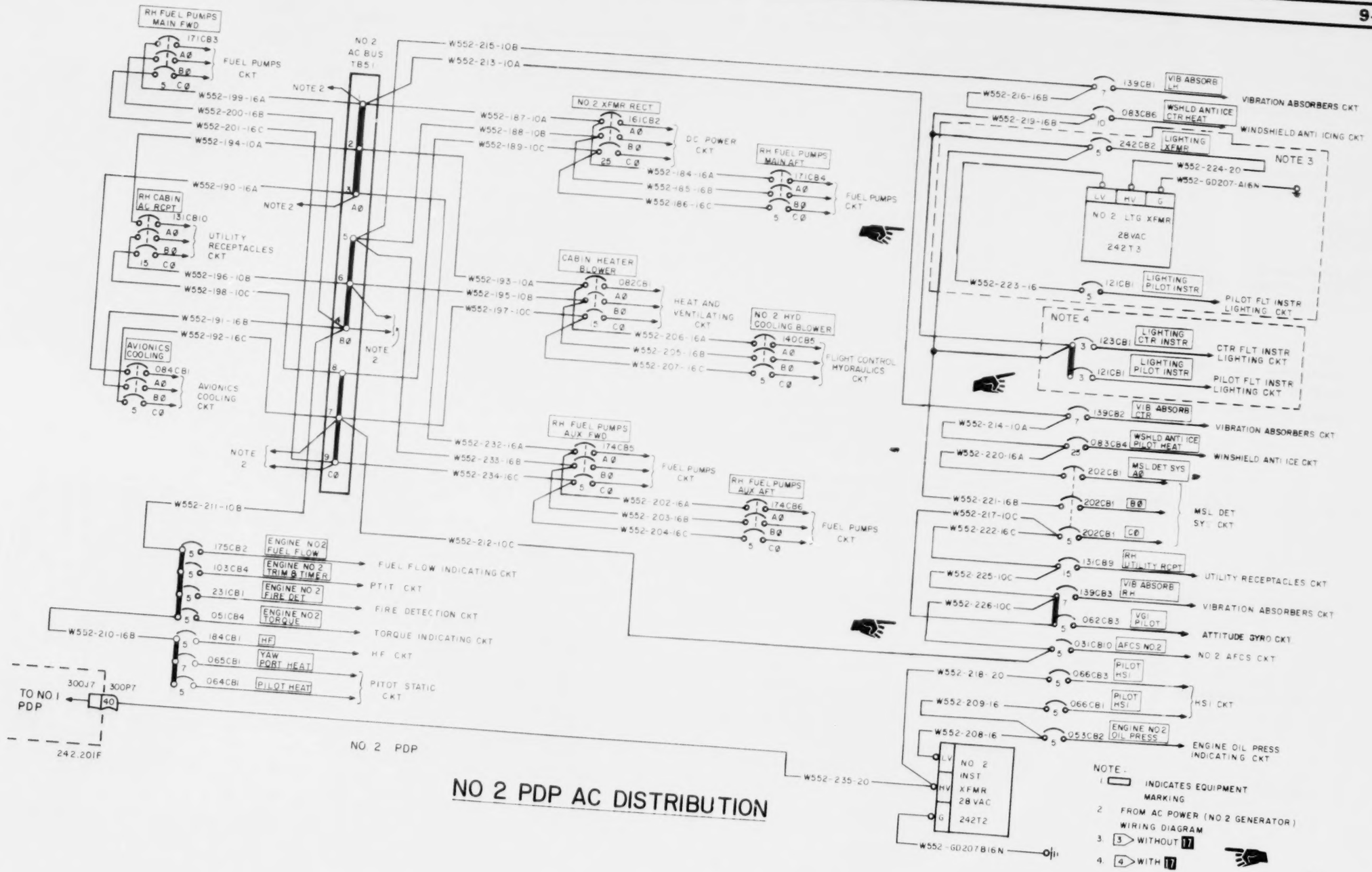


NO 2 PDP AC DISTRIBUTION

549

9-2.3 AC POWER SYSTEM VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

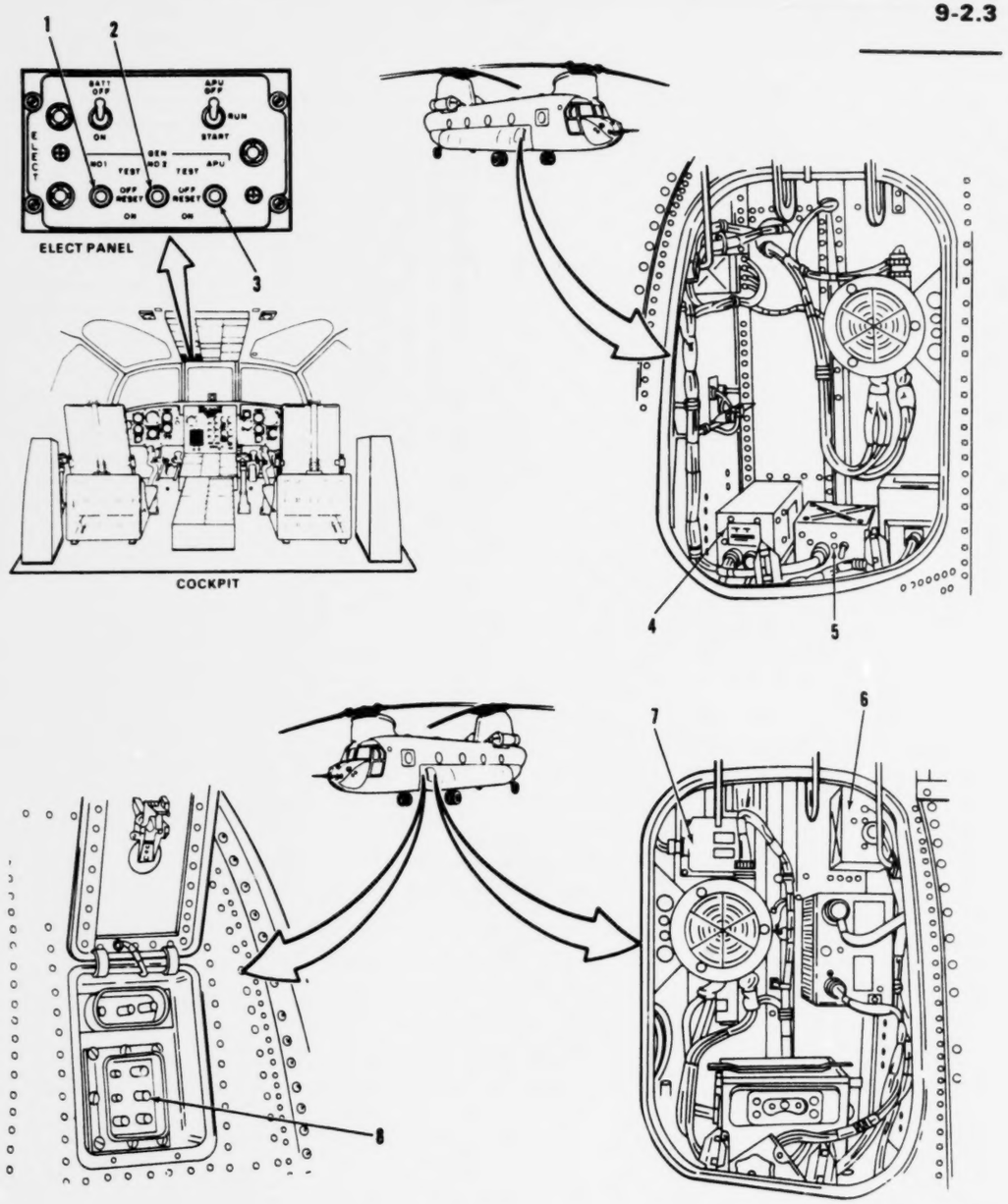
Materials:
None

Personnel Required:
68F10 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Left and Right Transmission Baffles Open
Left and Right Electrical Compartment Access Doors Open
Cargo Ramp Open and Level (Task 7-3.4)

TASK	RESULT
1. **Check GEN NO. 1, NO. 2, and APU switches (1, 2, and 3).**	If any switch (1, 2, or 3) is loose or damaged, tighten or replace it as required.
2. **Check apu generator control panel (4).**	If panel (4) is loose or damaged, tighten or replace it as required. If electrical connectors to panel are loose or damaged, tighten or replace them as required. If wiring to either connector is damaged, repair or replace it as required.
3. **Check No. 2 generator control panel (5).**	If panel (5) is loose or damaged, tighten or replace it as required. If electrical connector to panel is loose or damaged, tighten or replace it as required. If wiring to connector is damaged, repair or replace it as required.
4. **Check No. 1 generator control panel (6).**	If panel (6) is loose or damaged, tighten or replace it as required. If electrical connector to panel is loose or damaged, tighten or replace it as required. If wiring to connector is damaged, repair or replace it as required.
5. **Check power monitor (7).**	If monitor (7) is loose or damaged, tighten or replace it as required. If electrical connector to monitor is loose or damaged, tighten or replace it as required. If wiring to connector is damaged, repair or replace it as required.
6. **Check AC power receptacle (8).**	If receptacle (8) is loose or damaged, tighten or replace it as required.



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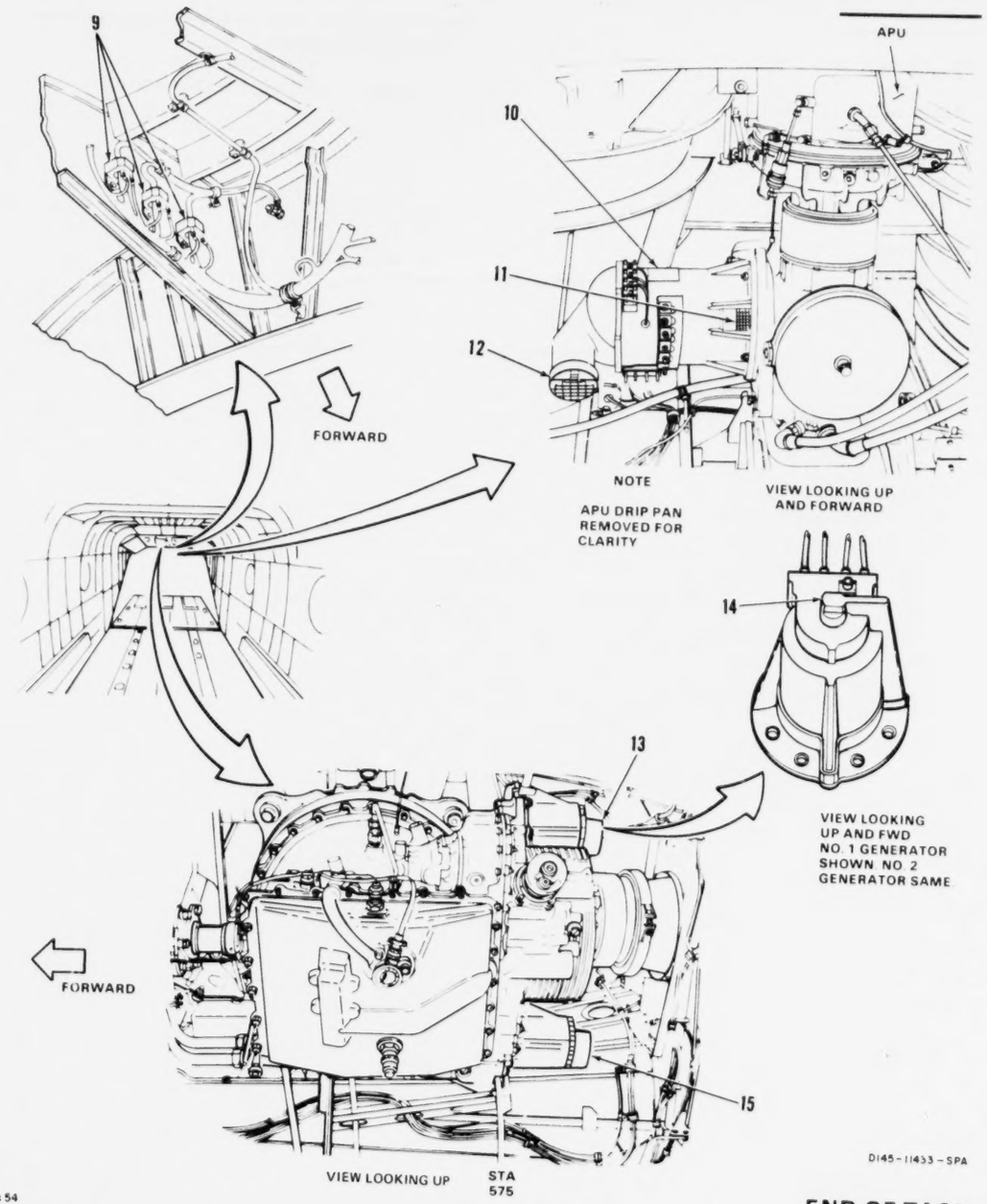
9-2.3 AC POWER SYSTEM VISUAL CHECK (Continued)

TASK	RESULT
7. **Check three apu current transformers (9).**	If any transformer (9) is loose or damaged, tighten or replace it as required. If wiring to or through transformers is loose or damaged, tighten or replace it as required.
8. **Check apu generator (10).**	If generator (10) is loose or damaged, tighten or replace it as required. If wiring to generator is loose or damaged, tighten or replace it as required. If inlet screen (11) or exhaust screen (12) are clogged, clean screen or replace generator.
9. **Check No. 1 generator (13).**	If generator (13) is loose, damaged, or leaking oil, tighten or replace it as required. If electrical connector (14) is loose or damaged, tighten or replace it as required. If wiring to generator or connector is damaged, repair or replace it as required.
10. **Check No. 2 generator (15).**	If generator (15) is loose, damaged, or leaking oil, tighten or replace it as required. If electrical connector (14) is loose or damaged, tighten or replace it as required. If wiring to generator or connector is damaged, repair or replace it as required.

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23:
Left and Right Electrical Compartment Access Doors Open.



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END OF TASK

9-2.4 AC POWER SYSTEM OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
None

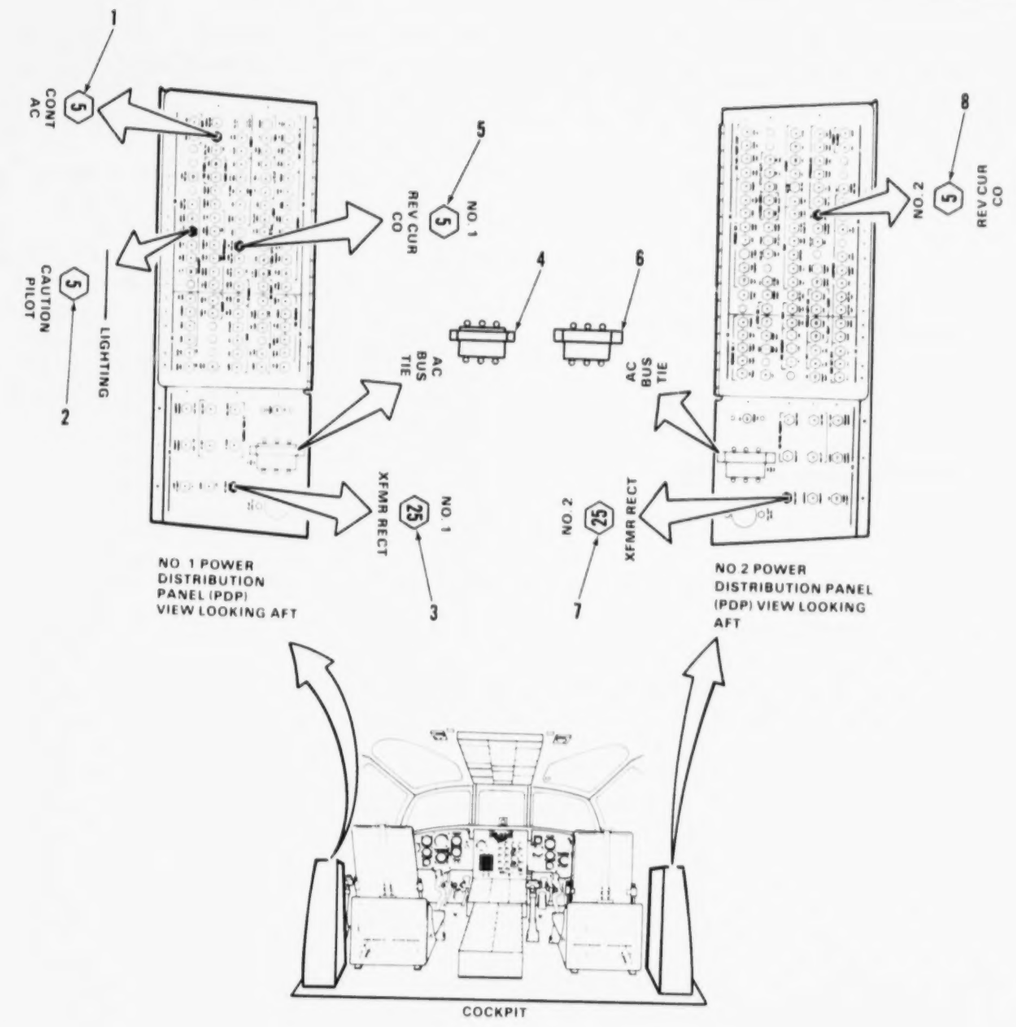
Materials:
None

Personnel Required:
68F20 Aircraft Electrician
100C0 Army Rotary Wing Aviator (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected

TASK	RESULT
CHECK CIRCUIT BREAKERS	
1. **Check** that **following circuit breakers on NO. PDP** are closed. CONT AC (1) CAUTION PNL (2) NO. 1 XFMR RECT (3) AC BUS TIE (4) NO. 1 REV CUR CO (5)	If any circuit breaker (1 through 5) is open, close it.
2. **Check** that **following circuit breakers on NO. 2 PDP** are closed. AC BUS TIE (6) NO. 2 XFMR RECT (7) NO. 2 REV CUR CO (8)	If any circuit breaker (6, 7, and 8) is open, close it.



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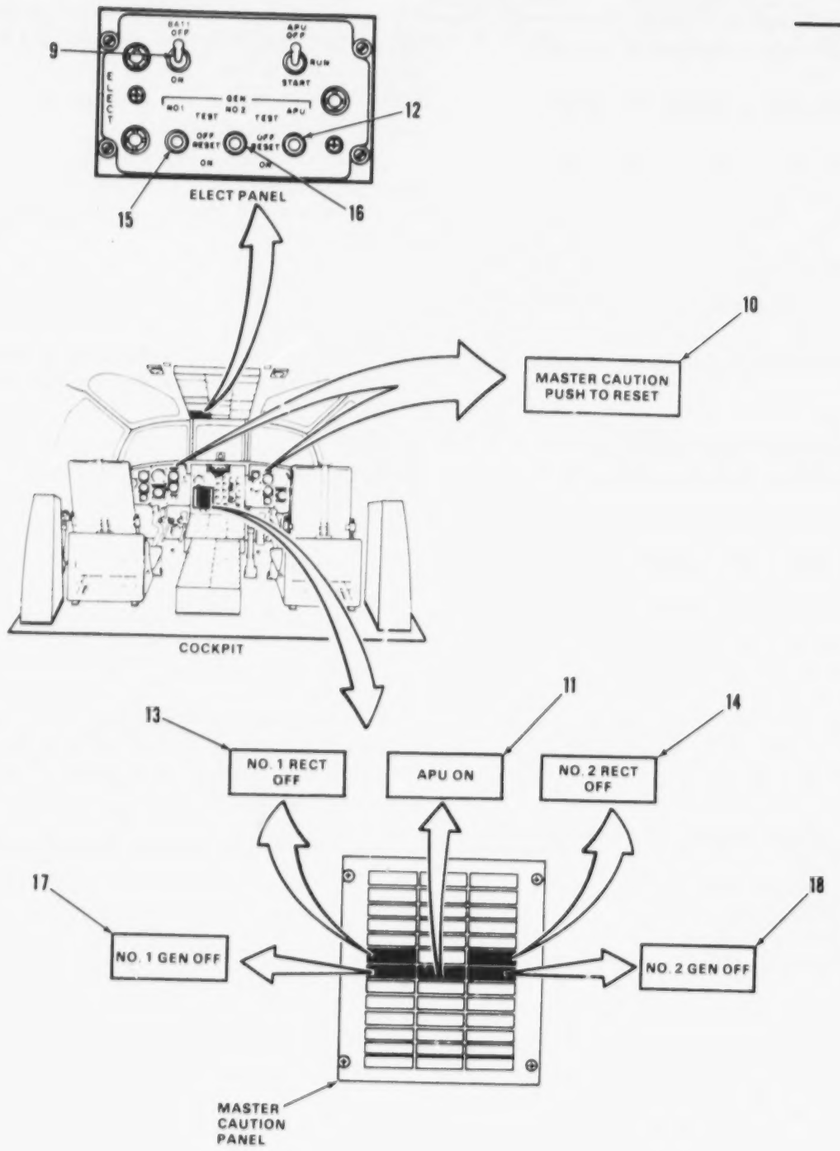
9-2.4 AC POWER SYSTEM OPERATIONAL CHECK (Continued)

TASK	RESULT
3. **Set BATT switch (9) to ON.**	MASTER CAUTION lights (10) shall come on. If lights do not come on, go to task 9-1.4.
4. Have pilot **start apu.**	APU ON capsule (11) shall come on.
5. **Set APU GEN switch (12) to ON.**	NO. 1 RECT OFF and NO. 2 RECT OFF capsules (13 and 14) shall go out. If both capsules are on, go to task 9-2.5. If either capsule is on, go to task 9-1.8 or 9-1.9.
6. **Check** that **GEN NO. 1 and NO. 2 switches (15 and 16)** are at **OFF.**	If either switch (15 or 16) is not at OFF, then set it to OFF.
7. **Check** that **NO. 1 GEN OFF and NO. 2 GEN OFF capsules (17 and 18)** are **ON.**	If either capsule (17 or 18) is out, go to task 9-2.6.
8. Have pilot start engines and establish 100% rotor rpm.	
9. **Set GEN NO. 1 switch (15) to TEST.**	NO. 1 GEN OFF capsule (17) shall go out. If it does not, go to task 9-2.7.
10. **Set GEN NO.1 switch (15) to ON.**	NO. 1 GEN OFF capsule (17) shall stay out. NO. 1 RECT OFF NO. 2 RECT OFF capsules (13 and 14) shall stay out. If capsule (17) comes on and stays on, go to task 9-2.8.
11. Have pilot stop apu.	APU ON capsule (11) shall go out. NO. 1 RECT OFF and NO. 2 RECT OFF capsules (13 and 14) shall stay out. If they come on, go to task 9-2.9.



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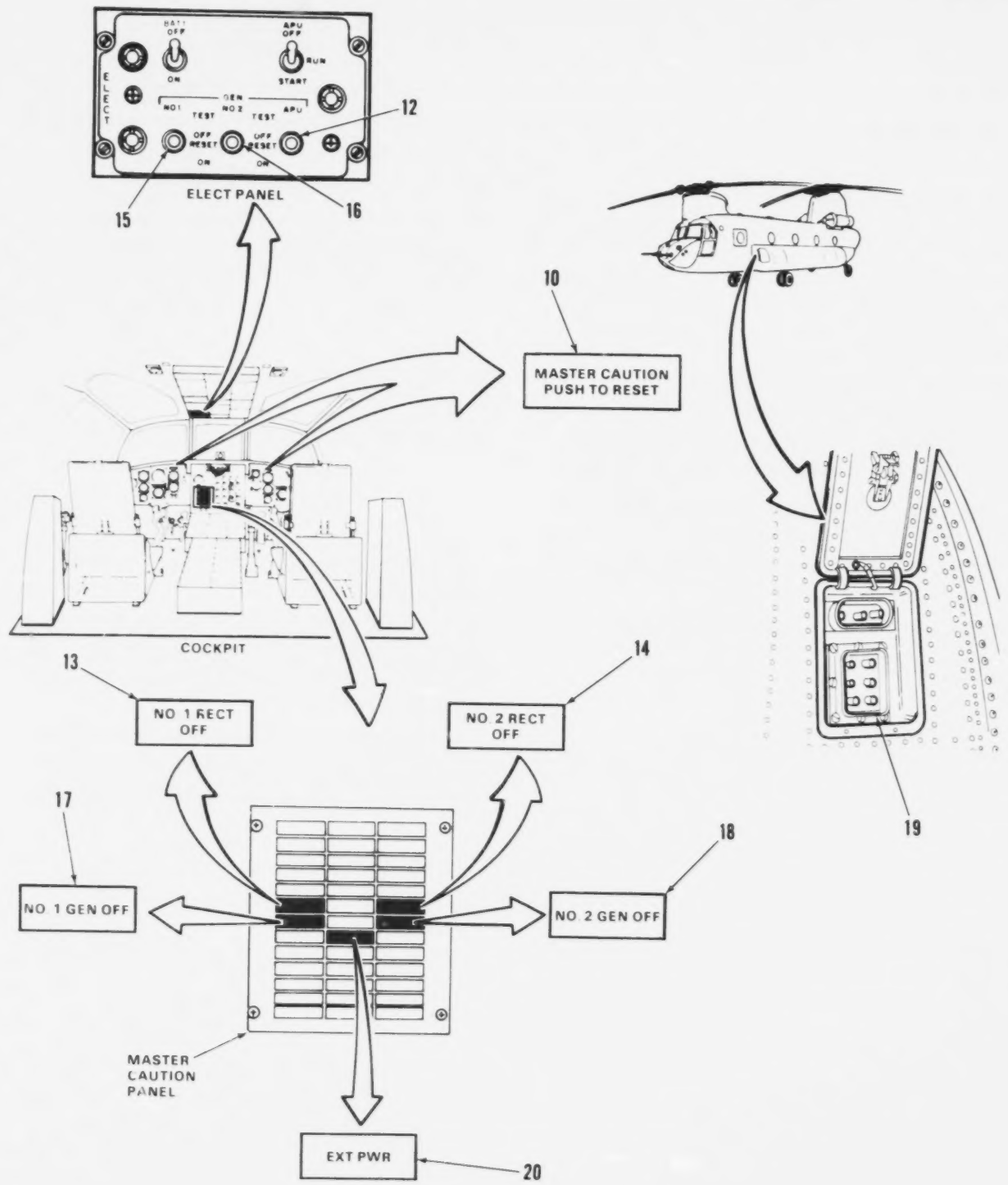
9-2.4 AC POWER SYSTEM OPERATIONAL CHECK (Continued)

TASK	RESULT
12. **Set GEN NO. 2 switch (16) to TEST.**	NO. 2 GEN OFF capsule (18) shall go out. If it does not, go to task 9-2.10.
13. **Set GEN NO. 2 switch (16) to ON.**	NO. 2 GEN OFF capsule (18) shall stay out. If capsule comes on, go to task 9-2.11.
14. **Set GEN NO. 1 switch (15) to OFF.**	NO. 1 GEN OFF capsule (17) shall come on. NO. 1 RECT OFF and NO. 2 RECT OFF capsules (13 and 14) shall stay out. If they come on, go to task 9-2.12.
15. **Set GEN NO. 1 SWITCH (15) to ON.**	
16. **Have pilot start apu and switch on apu generator.**	
17. **Set GEN NO. 1 switch (15) to OFF.**	NO. 1 GEN capsule shall come on. NO. 1 RECT OFF capsule shall stay out. If it comes on, go to task 9-2.15.
18. **Set GEN NO. 1 switch (15) to ON.**	
19. **Set GEN NO. 2 switch (16) to OFF.**	NO. 2 GEN OFF capsule shall come on. NO. 2 RECT OFF capsule shall stay out. If it comes on, go to task 9-2.15.
20. **Have pilot stop engines.**	
NOTE The following steps can only be performed with an external ac power source.	
21. **Connect a 115/200VAC Hz AC external power source to receptacle (19). Turn on power source.**	EXT PWR capsule (20) shall come on. If it does not, go to task 9-2.13. NO. 1 RECT OFF and NO. 2 RECT OFF capsules (13 and 14) shall go out. If they do not, go to task 9-2.14.
22. **Turn off and disconnect power source.**	

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off



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END OF TASK

9-2.5 NO. 1 AND NO. 2 RECT OFF CAUTION LIGHTS ON

FAULT ISOLATION PROCEDURE
INITIAL SETUP

Applicable Configurations:
All

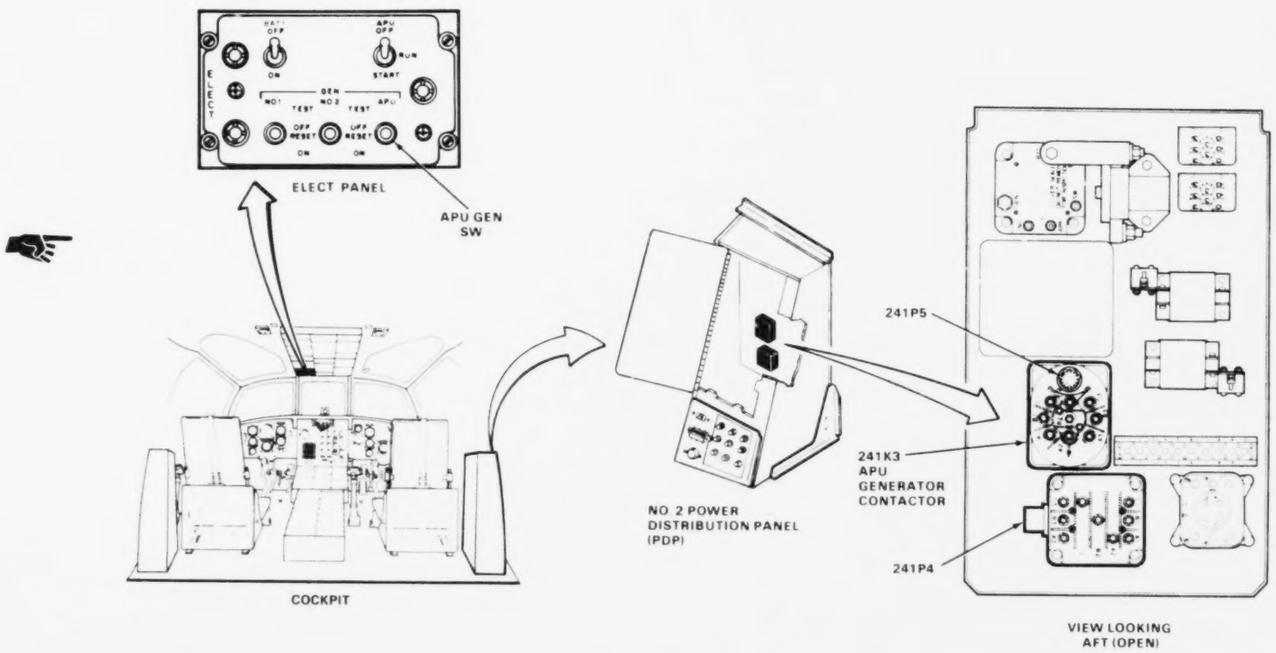
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

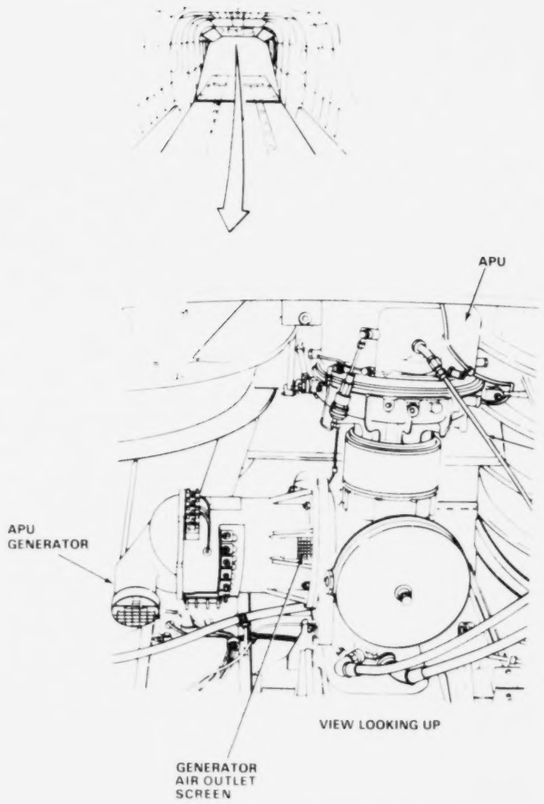
Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off





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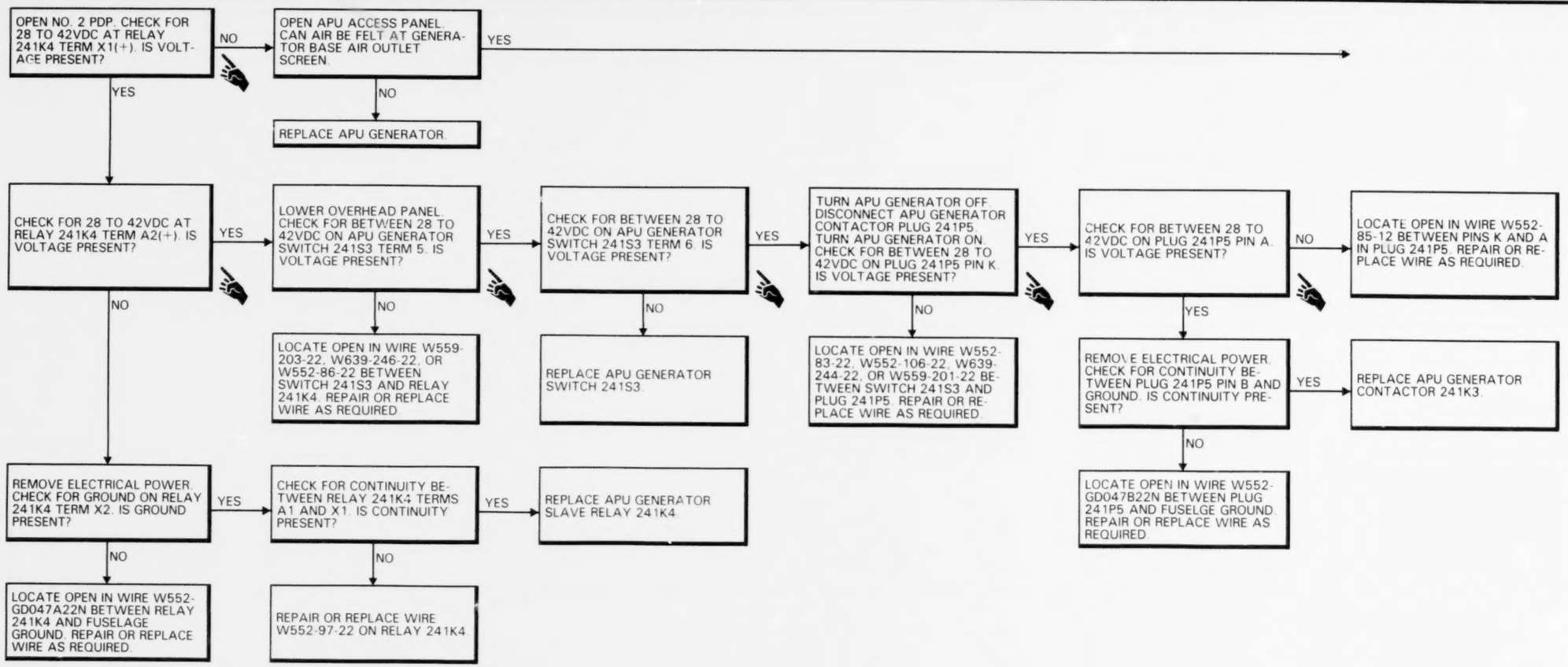
9-2.5 NO. 1 AND NO. 2 RECT OFF CAUTION LIGHTS ON (Continued)


OPEN NO. 2 PDP. CHECK FOR 28 TO 42VDC AT RELAY 241K4 TERM X1(+). IS VOLTAGE PRESENT?
NO
OPEN APU ACCESS PANEL. CAN AIR BE FELT AT GENERATOR BASE AIR OUTLET SCREEN.
YES
NO
REPLACE APU GENERATOR.
YES
CHECK FOR 28 TO 42VDC AT RELAY 241K4 TERM A2(+). IS VOLTAGE PRESENT?
YES
LOWER OVERHEAD PANEL. CHECK FOR BETWEEN 28 TO 42VDC ON APU GENERATOR SWITCH 241S3 TERM 5. IS VOLTAGE PRESENT?
YES
CHECK FOR BETWEEN 28 TO 42VDC ON APU GENERATOR SWITCH 241S3 TERM 6. IS VOLTAGE PRESENT?
YES
TURN APU GENERATOR OFF. DISCONNECT APU GENERATOR CONTACTOR PLUG 241P5. TURN APU GENERATOR ON. CHECK FOR BETWEEN 28 TO 42VDC ON PLUG 241P5 PIN K. IS VOLTAGE PRESENT?
YES
CHECK FOR BETWEEN 28 TO 42VDC ON PLUG 241P5 PIN A. IS VOLTAGE PRESENT?
NO
LOCATE OPEN IN WIRE W552-85-12 BETWEEN PINS K AND A IN PLUG 241P5. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W559-203-22, W639-246-22, OR W552-86-22 BETWEEN SWITCH 241S3 AND RELAY 241K4. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE APU GENERATOR SWITCH 241S3.
NO
LOCATE OPEN IN WIRE W552-83-22, W552-106-22, W639-244-22, OR W559-201-22 BETWEEN SWITCH 241S3 AND PLUG 241P5. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REMOVE ELECTRICAL POWER. CHECK FOR CONTINUITY BETWEEN PLUG 241P5 PIN B AND GROUND. IS CONTINUITY PRESENT?
YES
REPLACE APU GENERATOR CONTACTOR 241K3.
NO
LOCATE OPEN IN WIRE W552-GD047B22N BETWEEN PLUG 241P5 AND FUSELGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELECTRICAL POWER. CHECK FOR GROUND ON RELAY 241K4 TERM X2. IS GROUND PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN RELAY 241K4 TERMS A1 AND X1. IS CONTINUITY PRESENT?
YES
REPLACE APU GENERATOR SLAVE RELAY 241K4.
NO
LOCATE OPEN IN WIRE W552-GD047A22N BETWEEN RELAY 241K4 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPAIR OR REPLACE WIRE W552-97-22 ON RELAY 241K4.

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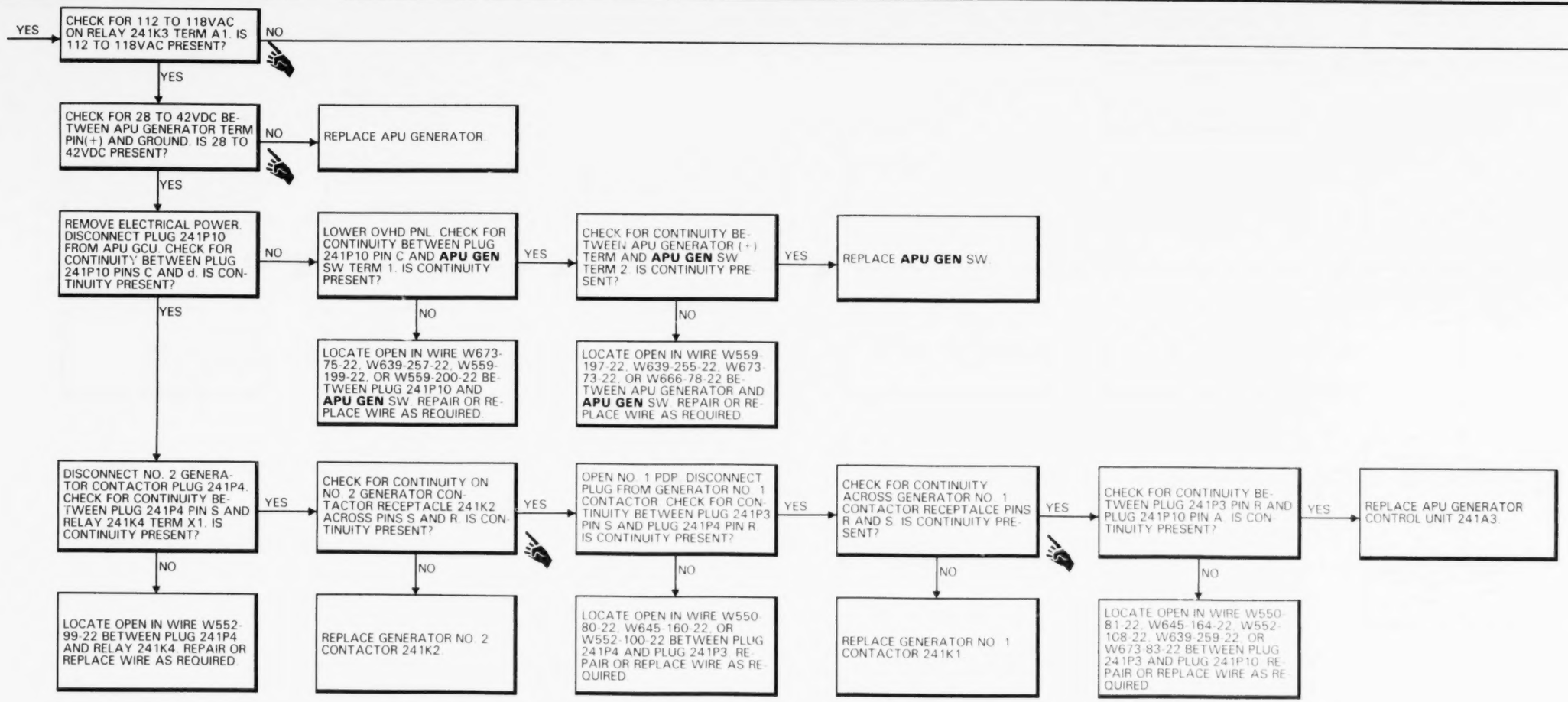
9-2.5 NO. 1 AND NO. 2 RECT OFF CAUTION LIGHTS ON (Continued)


CHECK FOR 112 TO 118VAC ON RELAY 241K3 TERM A1. IS 112 TO 118VAC PRESENT?
YES
NO
CHECK FOR 28 TO 42VDC BETWEEN APU GENERATOR TERM PIN(+) AND GROUND. IS 28 TO 42VDC PRESENT?
YES
NO
REPLACE APU GENERATOR.
REMOVE ELECTRICAL POWER. DISCONNECT PLUG 241P10 FROM APU GCU. CHECK FOR CONTINUITY BETWEEN PLUG 241P10 PINS C AND d. IS CONTINUITY PRESENT?
YES
NO
LOWER OVHD PNL. CHECK FOR CONTINUITY BETWEEN PLUG 241P10 PIN C AND APU GEN SW TERM 1. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W673-75-22, W639-257-22, W559-199-22, OR W559-200-22 BETWEEN PLUG 241P10 AND APU GEN SW. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR CONTINUITY BETWEEN APU GENERATOR (+) TERM AND APU GEN SW TERM 2. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W559-197-22, W639-255-22, W673-73-22, OR W666-78-22 BETWEEN APU GENERATOR AND APU GEN SW. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE APU GEN SW.
DISCONNECT NO. 2 GENERATOR CONTACTOR PLUG 241P4. CHECK FOR CONTINUITY BETWEEN PLUG 241P4 PIN S AND RELAY 241K4 TERM X1. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W552-99-22 BETWEEN PLUG 241P4 AND RELAY 241K4. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR CONTINUITY ON NO. 2 GENERATOR CONTACTOR RECEPTACLE 241K2 ACROSS PINS S AND R. IS CONTINUITY PRESENT?
YES
NO
REPLACE GENERATOR NO. 2 CONTACTOR 241K2.
OPEN NO. 1 PDP. DISCONNECT PLUG FROM GENERATOR NO. 1 CONTACTOR. CHECK FOR CONTINUITY BETWEEN PLUG 241P3 PIN S AND PLUG 241P4 PIN R. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W550-80-22, W645-160-22, OR W552-100-22 BETWEEN PLUG 241P4 AND PLUG 241P3. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR CONTINUITY ACROSS GENERATOR NO. 1 CONTACTOR RECEPTALCE PINS R AND S. IS CONTINUITY PRESENT?
YES
NO
REPLACE GENERATOR NO. 1 CONTACTOR 241K1.
CHECK FOR CONTINUITY BETWEEN PLUG 241P3 PIN R AND PLUG 241P10 PIN A. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W550-81-22, W645-164-22, W552-108-22, W639-259-22, OR W673-83-22 BETWEEN PLUG 241P3 AND PLUG 241P10. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE APU GENERATOR CONTROL UNIT 241A3.

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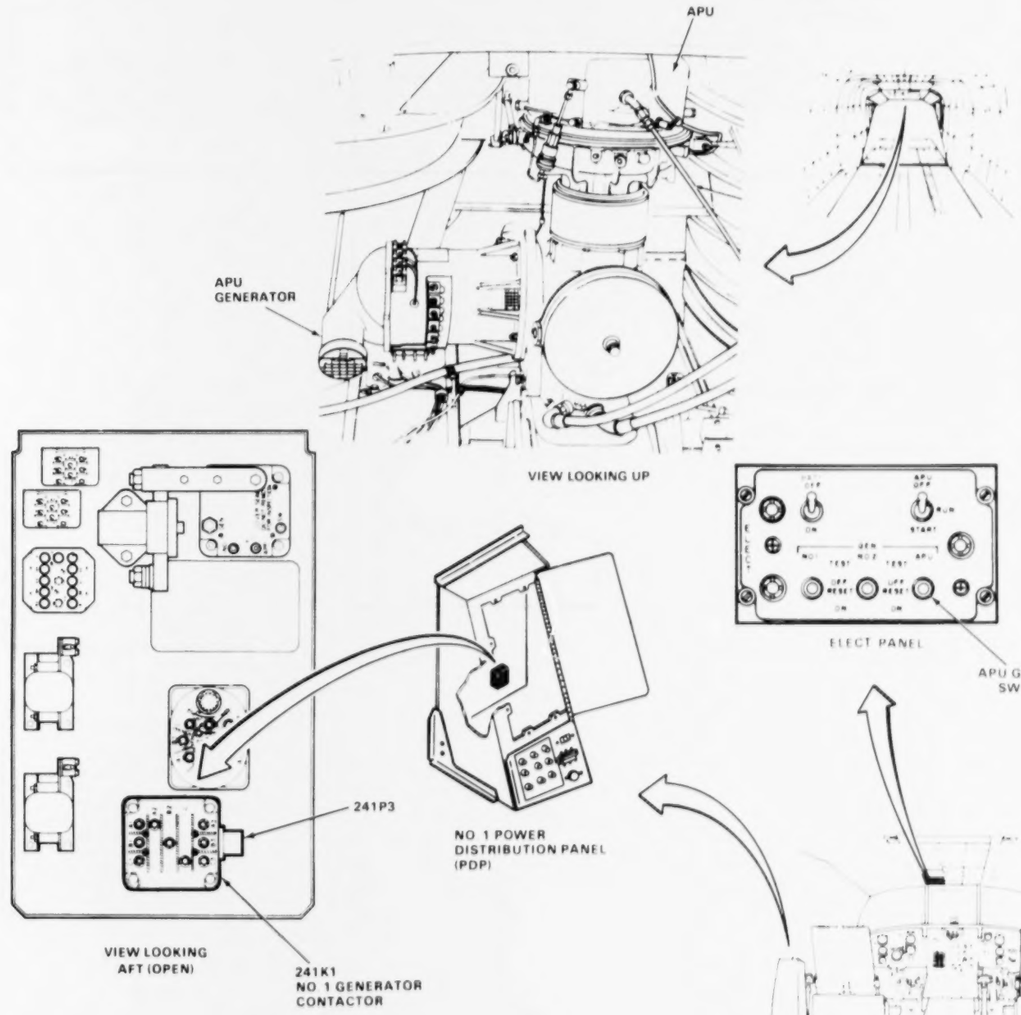
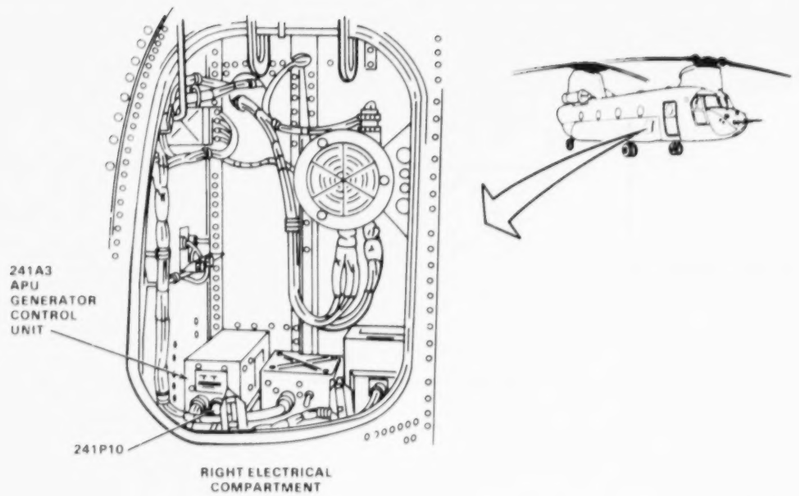
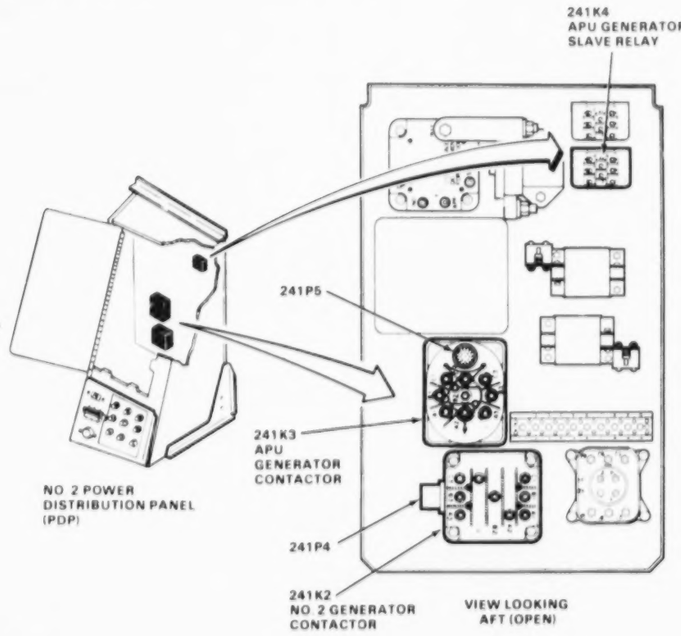
9-2.5 NO. 1 AND NO. 2 RECT OFF CAUTION LIGHTS ON (Continued)







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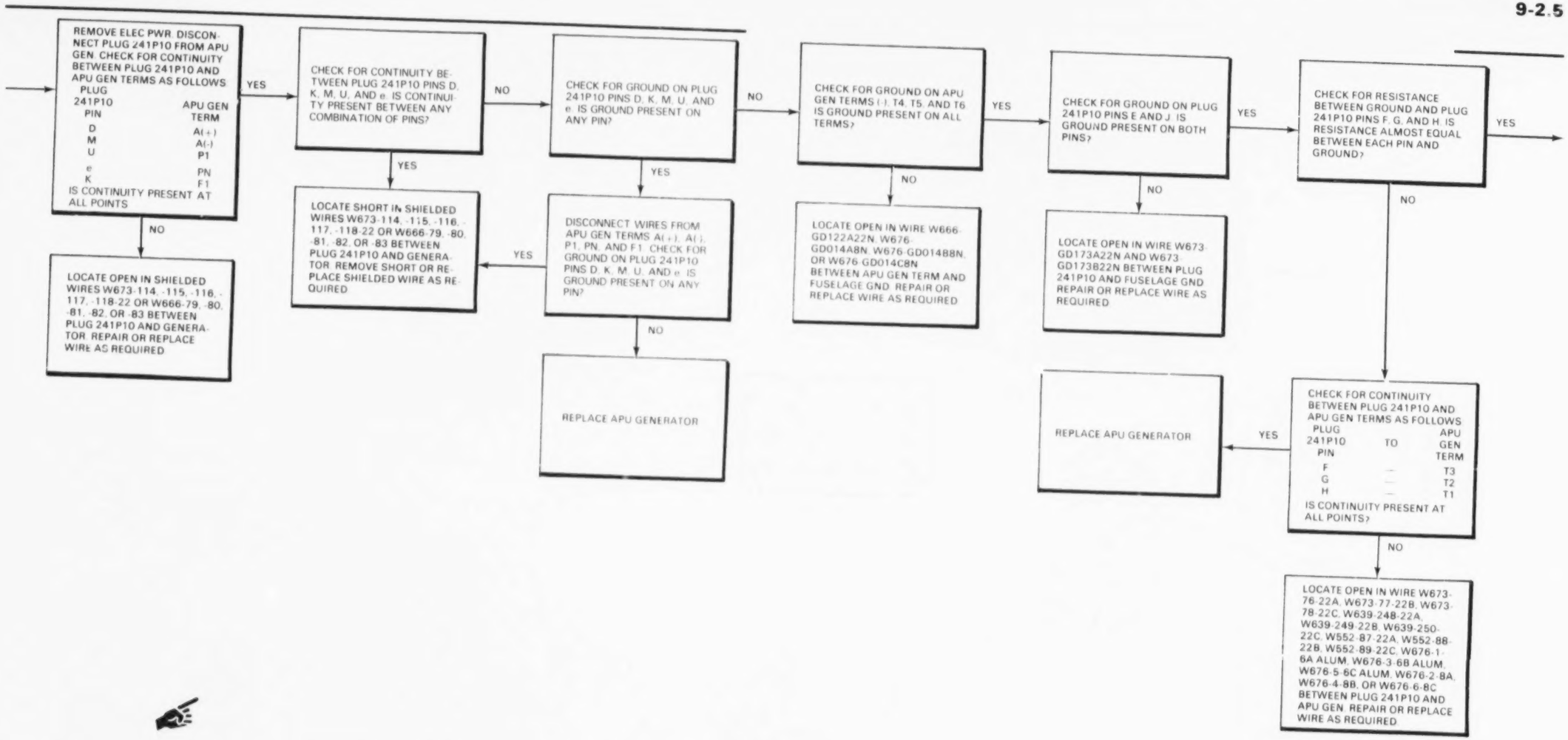
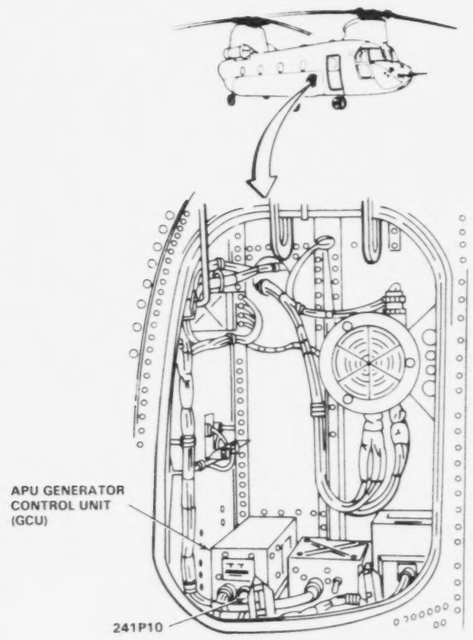
9-2.5 NO. 1 AND NO. 2 RECT OFF CAUTION LIGHTS ON (Continued)

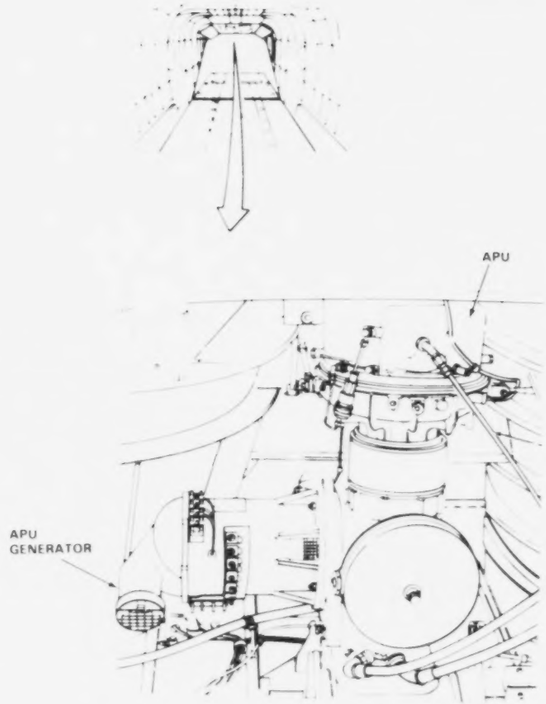

REMOVE ELEC PWR. DISCONNECT PLUG 241P10 FROM APU GEN. CHECK FOR CONTINUITY BETWEEN PLUG 241P10 AND APU GEN TERMS AS FOLLOWS
PLUG 241P10 PIN — APU GEN TERM
D — A(+)
M — A(-)
U — P1
e — PN
K — F1
IS CONTINUITY PRESENT AT ALL POINTS
YES
NO
LOCATE OPEN IN SHIELDED WIRES W673-114, -115, -116, -117, -118-22 OR W666-79, -80, -81, -82, OR -83 BETWEEN PLUG 241P10 AND GENERATOR. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR CONTINUITY BETWEEN PLUG 241P10 PINS D, K, M, U, AND e. IS CONTINUITY PRESENT BETWEEN ANY COMBINATION OF PINS?
YES
NO
LOCATE SHORT IN SHIELDED WIRES W673-114, -115, -116, -117, -118-22 OR W666-79, -80, -81, -82, OR -83 BETWEEN PLUG 241P10 AND GENERATOR. REMOVE SHORT OR REPLACE SHIELDED WIRE AS REQUIRED
CHECK FOR GROUND ON PLUG 241P10 PINS D, K, M, U, AND e. IS GROUND PRESENT ON ANY PIN?
YES
NO
DISCONNECT WIRES FROM APU GEN TERMS A(+), A(-), P1, PN, AND F1. CHECK FOR GROUND ON PLUG 241P10 PINS D, K, M, U, AND e. IS GROUND PRESENT ON ANY PIN?
YES
NO
REPLACE APU GENERATOR
CHECK FOR GROUND ON APU GEN TERMS (-), T4, T5, AND T6. IS GROUND PRESENT ON ALL TERMS?
YES
NO
LOCATE OPEN IN WIRE W666-GD122A22N, W676-GD014A8N, W676-GD014B8N, OR W676-GD014C8N BETWEEN APU GEN TERM AND FUSELAGE GND. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR GROUND ON PLUG 241P10 PINS E AND J. IS GROUND PRESENT ON BOTH PINS?
YES
NO
LOCATE OPEN IN WIRE W673-GD173A22N AND W673-GD173B22N BETWEEN PLUG 241P10 AND FUSELAGE GND. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR RESISTANCE BETWEEN GROUND AND PLUG 241P10 PINS F, G, AND H. IS RESISTANCE ALMOST EQUAL BETWEEN EACH PIN AND GROUND?
YES
NO
CHECK FOR CONTINUITY BETWEEN PLUG 241P10 AND APU GEN TERMS AS FOLLOWS
PLUG 241P10 PIN — TO — APU GEN TERM
F — T3
G — T2
H — T1
IS CONTINUITY PRESENT AT ALL POINTS?
YES
NO
REPLACE APU GENERATOR
LOCATE OPEN IN WIRE W673-76-22A, W673-77-22B, W673-78-22C, W639-248-22A, W639-249-22B, W639-250-22C, W552-87-22A, W552-88-22B, W552-89-22C, W676-1-6A ALUM, W676-3-6B ALUM, W676-5-6C ALUM, W676-2-8A, W676-4-8B, OR W676-6-8C BETWEEN PLUG 241P10 AND APU GEN. REPAIR OR REPLACE WIRE AS REQUIRED

GO TO NEXT PAGE

9-2.5 NO. 1 AND NO. 2 RECT OFF CAUTION LIGHTS ON (Continued)



RIGHT ELECTRICAL COMPARTMENT



VIEW LOOKING UP

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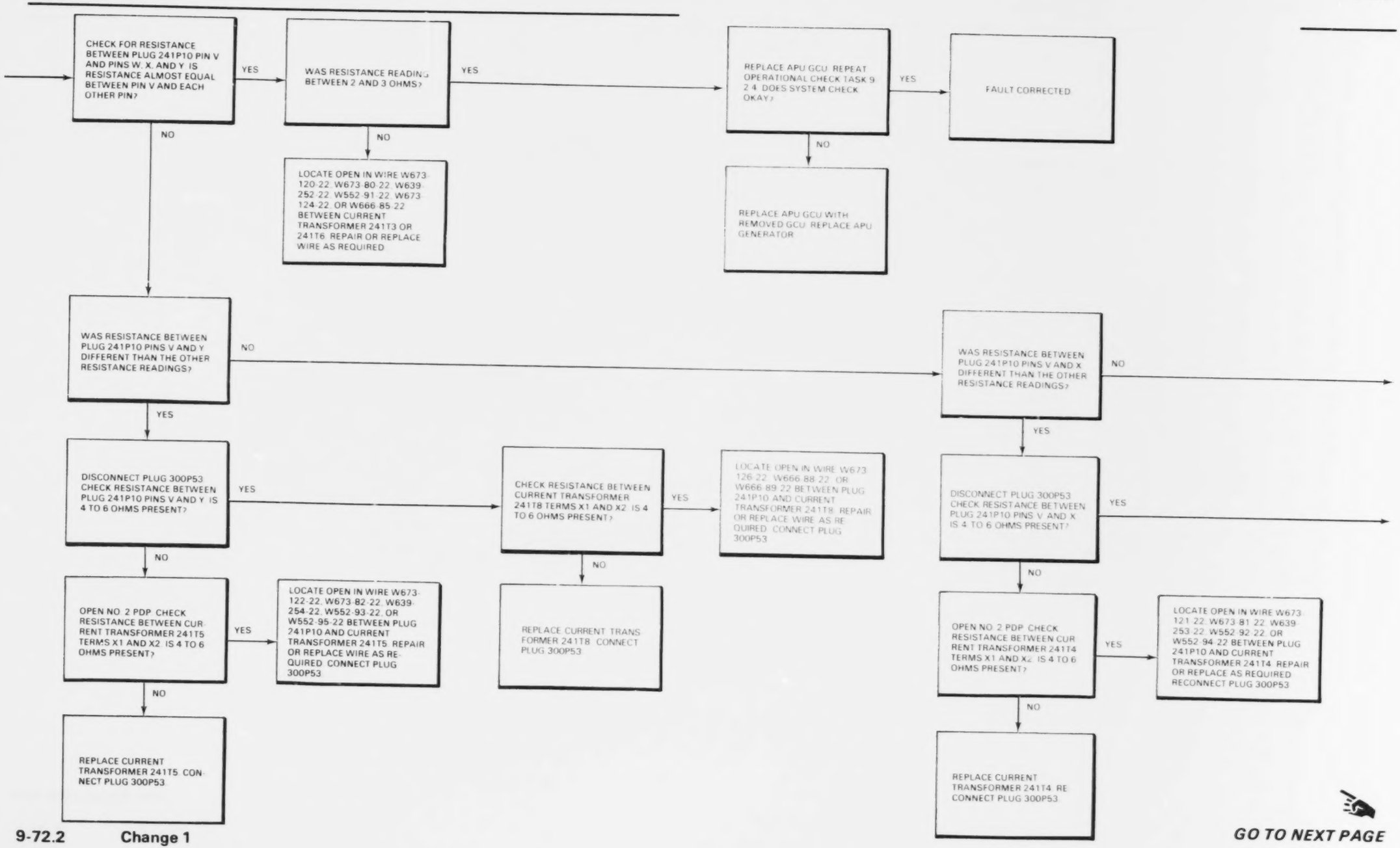
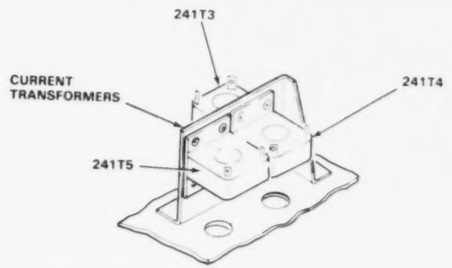
GO TO NEXT PAGE

9-2.5 NO. 1 AND NO. 2 RECT OFF CAUTION LIGHTS ON (Continued)

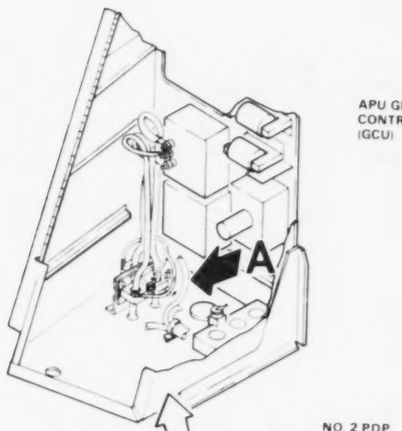

CHECK FOR RESISTANCE BETWEEN PLUG 241P10 PIN V AND PINS W, X, AND Y. IS RESISTANCE ALMOST EQUAL BETWEEN PIN V AND EACH OTHER PIN?
YES
WAS RESISTANCE READING BETWEEN 2 AND 3 OHMS?
YES
REPLACE APU GCU. REPEAT OPERATIONAL CHECK TASK 9-2.4. DOES SYSTEM CHECK OKAY?
YES
FAULT CORRECTED
NO
REPLACE APU GCU WITH REMOVED GCU. REPLACE APU GENERATOR.
NO
LOCATE OPEN IN WIRE W673-120-22, W673-80-22, W639-252-22, W552-91-22, W673-124-22, OR W666-85-22 BETWEEN CURRENT TRANSFORMER 241T3 OR 241T6. REPAIR OR REPLACE WIRE AS REQUIRED.
WAS RESISTANCE BETWEEN PLUG 241P10 PINS V AND Y DIFFERENT THAN THE OTHER RESISTANCE READINGS?
NO
YES
DISCONNECT PLUG 300P53. CHECK RESISTANCE BETWEEN PLUG 241P10 PINS V AND Y. IS 4 TO 6 OHMS PRESENT?
YES
CHECK RESISTANCE BETWEEN CURRENT TRANSFORMER 241T8 TERMS X1 AND X2. IS 4 TO 6 OHMS PRESENT?
YES
LOCATE OPEN IN WIRE W673-126-22, W666-88-22, OR W666-89-22 BETWEEN PLUG 241P10 AND CURRENT TRANSFORMER 241T8. REPAIR OR REPLACE WIRE AS REQUIRED. CONNECT PLUG 300P53.
NO
REPLACE CURRENT TRANSFORMER 241T8. CONNECT PLUG 300P53.
NO
OPEN NO. 2 PDP. CHECK RESISTANCE BETWEEN CURRENT TRANSFORMER 241T5 TERMS X1 AND X2. IS 4 TO 6 OHMS PRESENT?
YES
LOCATE OPEN IN WIRE W673-122-22, W673-82-22, W639-254-22, W552-93-22, OR W552-95-22 BETWEEN PLUG 241P10 AND CURRENT TRANSFORMER 241T5. REPAIR OR REPLACE WIRE AS REQUIRED. CONNECT PLUG 300P53.
NO
REPLACE CURRENT TRANSFORMER 241T5. CONNECT PLUG 300P53.
WAS RESISTANCE BETWEEN PLUG 241P10 PINS V AND X DIFFERENT THAN THE OTHER RESISTANCE READINGS?
NO
YES
DISCONNECT PLUG 300P53. CHECK RESISTANCE BETWEEN PLUG 241P10 PINS V AND X. IS 4 TO 6 OHMS PRESENT?
YES
NO
OPEN NO. 2 PDP. CHECK RESISTANCE BETWEEN CURRENT TRANSFORMER 241T4 TERMS X1 AND X2. IS 4 TO 6 OHMS PRESENT?
YES
LOCATE OPEN IN WIRE W673-121-22, W673-81-22, W639-253-22, W552-92-22, OR W552-94-22 BETWEEN PLUG 241P10 AND CURRENT TRANSFORMER 241T4. REPAIR OR REPLACE AS REQUIRED. RECONNECT PLUG 300P53.
NO
REPLACE CURRENT TRANSFORMER 241T4. RECONNECT PLUG 300P53.

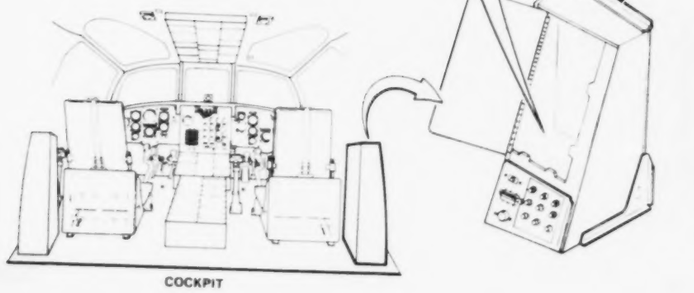
GO TO NEXT PAGE

9-2.5 NO. 1 AND NO. 2 RECT OFF CAUTION LIGHTS ON (Continued)

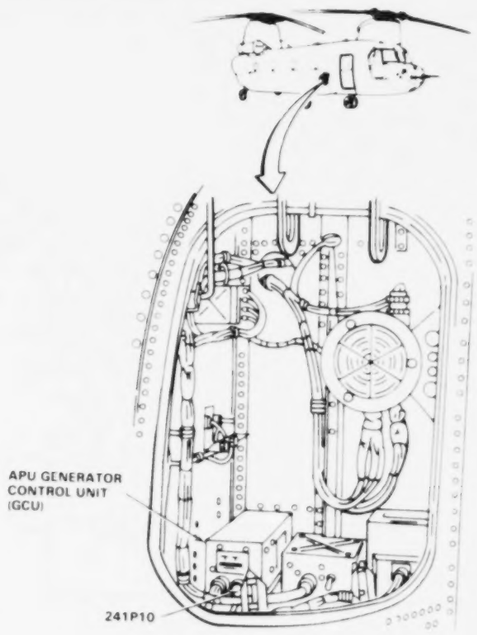


VIEW A

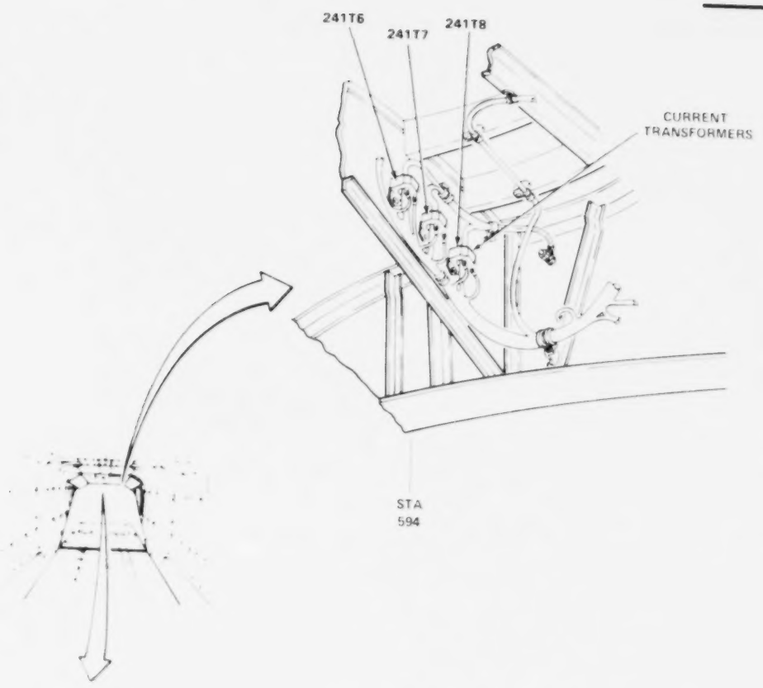


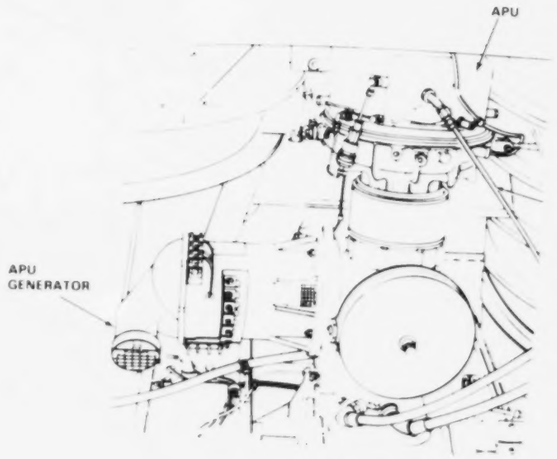


COCKPIT



RIGHT ELECTRICAL COMPARTMENT





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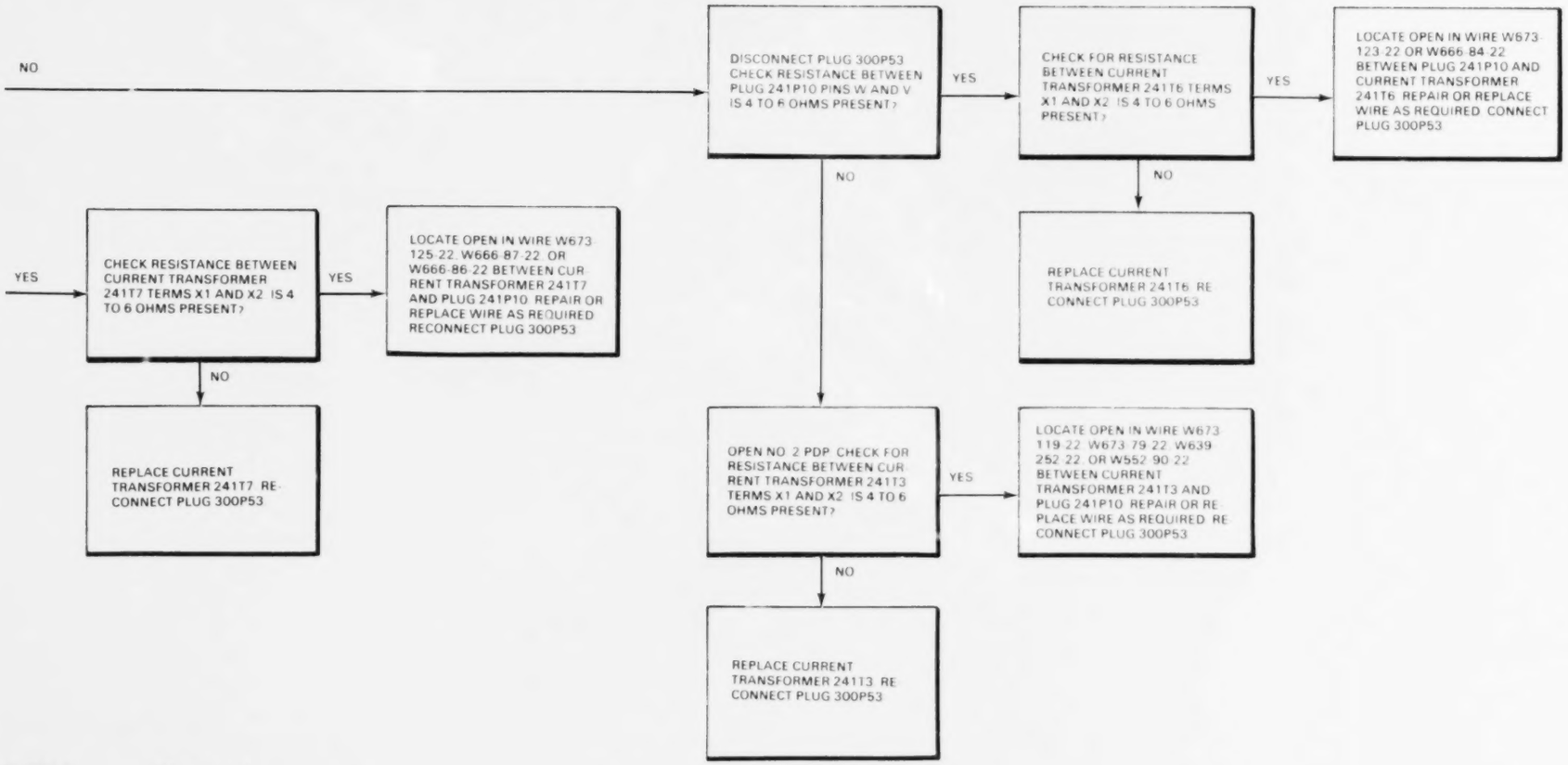
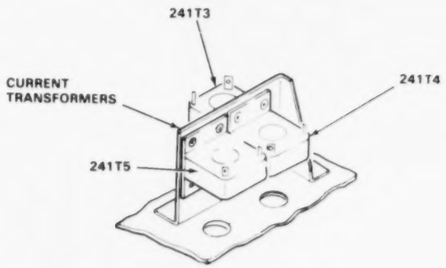
9-2.5 NO. 1 AND NO. 2 RECT OFF CAUTION LIGHTS ON (Continued)

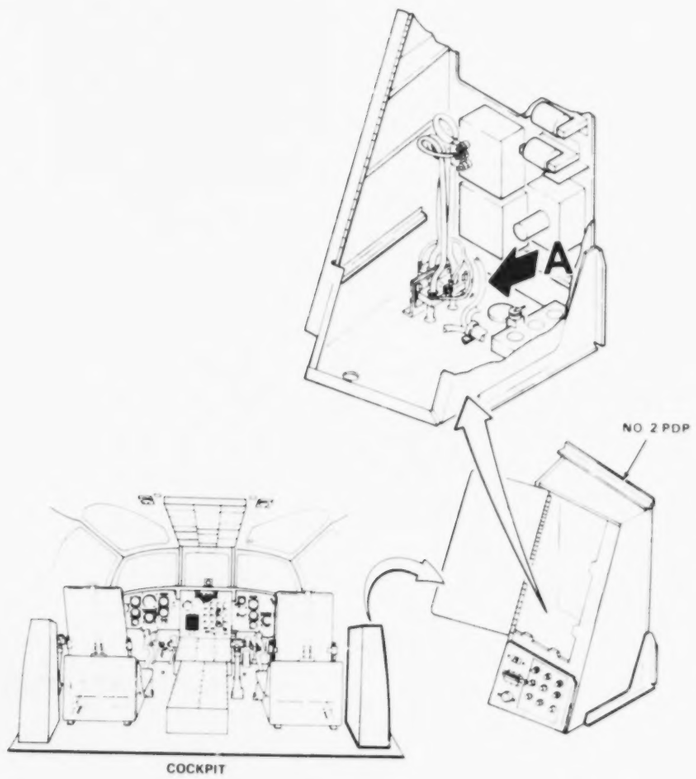

NO
DISCONNECT PLUG 300P53 CHECK RESISTANCE BETWEEN PLUG 241P10 PINS W AND V IS 4 TO 6 OHMS PRESENT?
YES
CHECK FOR RESISTANCE BETWEEN CURRENT TRANSFORMER 241T6 TERMS X1 AND X2 IS 4 TO 6 OHMS PRESENT?
YES
LOCATE OPEN IN WIRE W673-123-22 OR W666-84-22 BETWEEN PLUG 241P10 AND CURRENT TRANSFORMER 241T6 REPAIR OR REPLACE WIRE AS REQUIRED CONNECT PLUG 300P53
NO
NO
REPLACE CURRENT TRANSFORMER 241T6 RE-CONNECT PLUG 300P53
YES
CHECK RESISTANCE BETWEEN CURRENT TRANSFORMER 241T7 TERMS X1 AND X2 IS 4 TO 6 OHMS PRESENT?
YES
LOCATE OPEN IN WIRE W673-125-22 W666-87-22 OR W666-86-22 BETWEEN CURRENT TRANSFORMER 241T7 AND PLUG 241P10 REPAIR OR REPLACE WIRE AS REQUIRED RECONNECT PLUG 300P53
NO
REPLACE CURRENT TRANSFORMER 241T7 RE-CONNECT PLUG 300P53
OPEN NO 2 PDP CHECK FOR RESISTANCE BETWEEN CURRENT TRANSFORMER 241T3 TERMS X1 AND X2 IS 4 TO 6 OHMS PRESENT?
YES
LOCATE OPEN IN WIRE W673-119-22 W673-79-22 W639-252-22 OR W552-90-22 BETWEEN CURRENT TRANSFORMER 241T3 AND PLUG 241P10 REPAIR OR RE-PLACE WIRE AS REQUIRED RE-CONNECT PLUG 300P53
NO
REPLACE CURRENT TRANSFORMER 241T3 RE-CONNECT PLUG 300P53

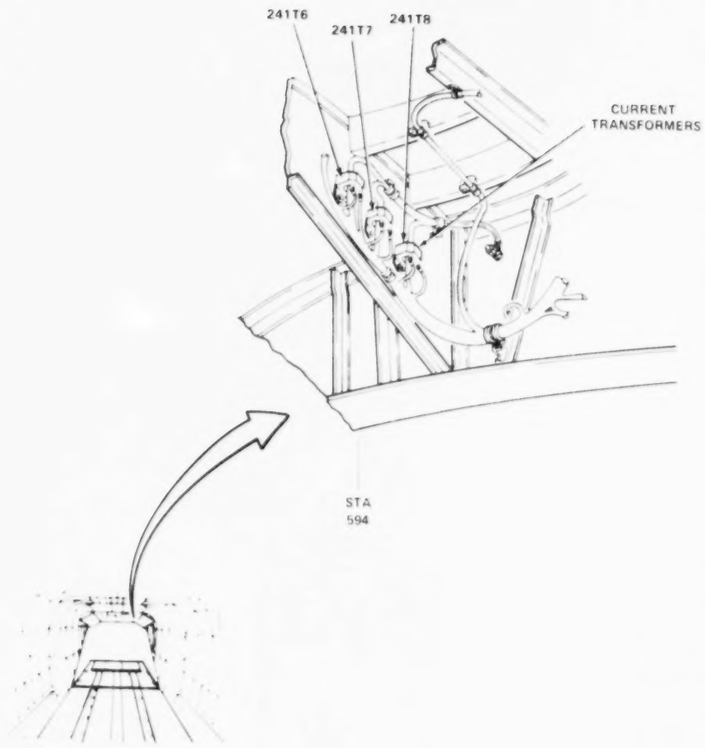
GO TO NEXT PAGE

9-2.5 NO. 1 AND NO. 2 RECT OFF CAUTION LIGHTS ON (Continued)



VIEW A





END OF TASK

9-2.6 NO. 1 OR NO. 2 GENERATOR OFF CAPSULE OUT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

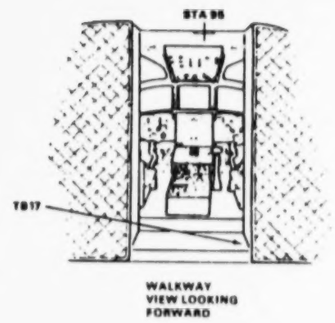
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Multimeter

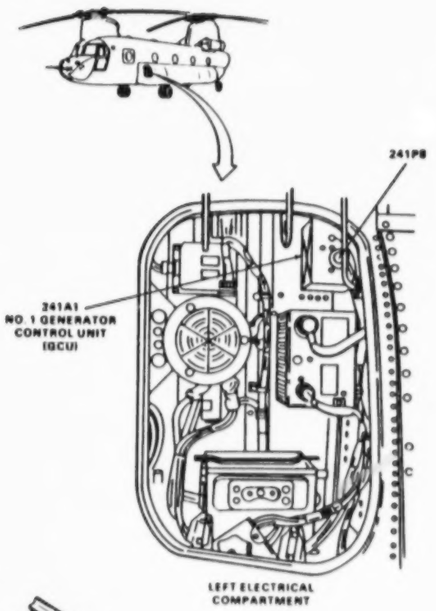
Materials:
None

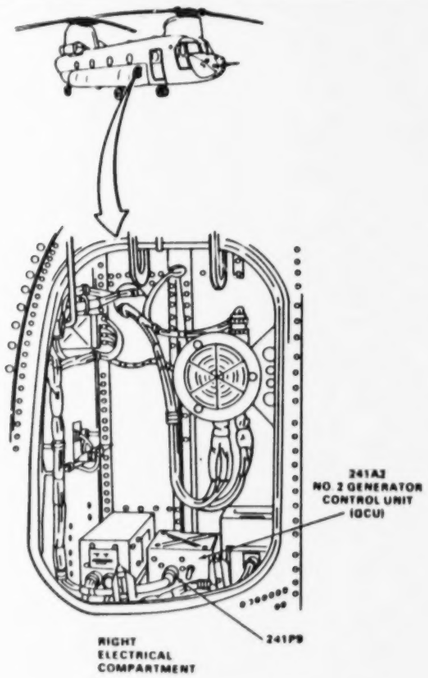
Personnel Required:
68F20 Aircraft Electrician

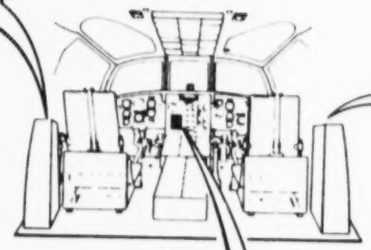
References:
TM 55-1520-240-23

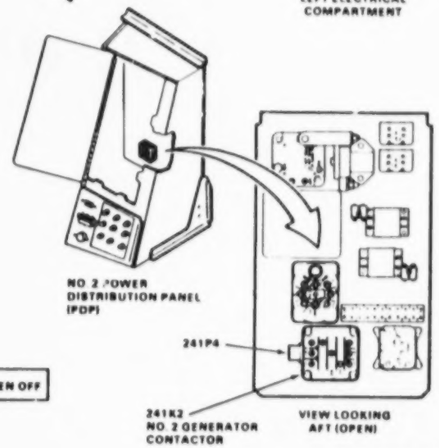
Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off

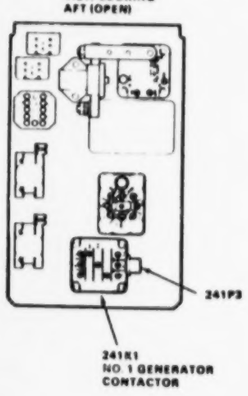


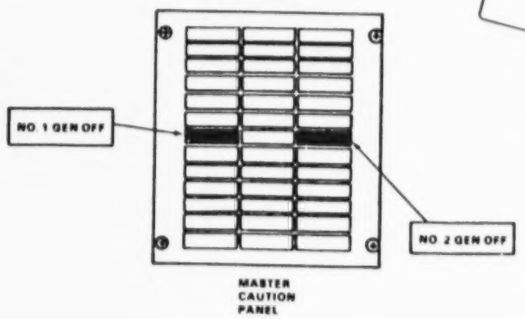












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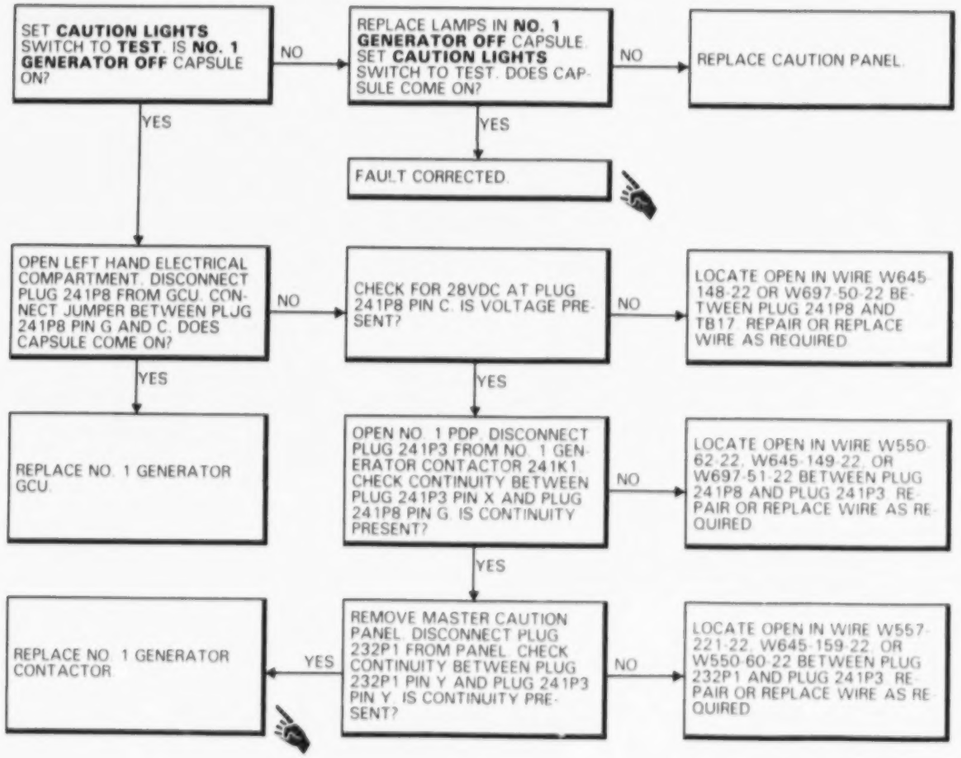
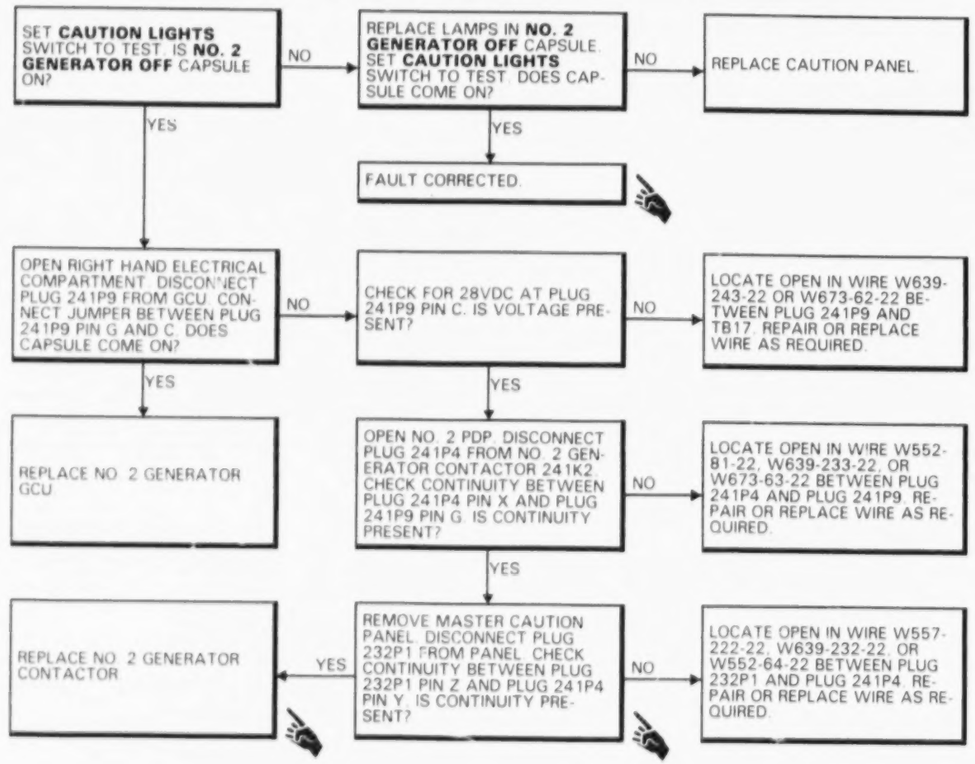
NO. 1 GENERATOR OFF CAPSULE OUT


SET CAUTION LIGHTS SWITCH TO TEST. IS NO. 1 GENERATOR OFF CAPSULE ON?
NO
REPLACE LAMPS IN NO. 1 GENERATOR OFF CAPSULE. SET CAUTION LIGHTS SWITCH TO TEST. DOES CAPSULE COME ON?
NO
REPLACE CAUTION PANEL.
YES
YES
FAULT CORRECTED.
OPEN LEFT HAND ELECTRICAL COMPARTMENT. DISCONNECT PLUG 241P8 FROM GCU. CONNECT JUMPER BETWEEN PLUG 241P8 PIN G AND C. DOES CAPSULE COME ON?
NO
CHECK FOR 28VDC AT PLUG 241P8 PIN C. IS VOLTAGE PRESENT?
NO
LOCATE OPEN IN WIRE W645-148-22 OR W697-50-22 BETWEEN PLUG 241P8 AND TB17. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
YES
REPLACE NO. 1 GENERATOR GCU.
OPEN NO. 1 PDP. DISCONNECT PLUG 241P3 FROM NO. 1 GENERATOR CONTACTOR 241K1. CHECK CONTINUITY BETWEEN PLUG 241P3 PIN X AND PLUG 241P8 PIN G. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W550-62-22, W645-149-22, OR W697-51-22 BETWEEN PLUG 241P8 AND PLUG 241P3. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE NO. 1 GENERATOR CONTACTOR.
YES
REMOVE MASTER CAUTION PANEL. DISCONNECT PLUG 232P1 FROM PANEL. CHECK CONTINUITY BETWEEN PLUG 232P1 PIN Y AND PLUG 241P3 PIN Y. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W557-221-22, W645-159-22, OR W550-60-22 BETWEEN PLUG 232P1 AND PLUG 241P3. REPAIR OR REPLACE WIRE AS REQUIRED.

NO. 2 GENERATOR OFF CAPSULE OUT


SET CAUTION LIGHTS SWITCH TO TEST. IS NO. 2 GENERATOR OFF CAPSULE ON?
NO
REPLACE LAMPS IN NO. 2 GENERATOR OFF CAPSULE. SET CAUTION LIGHTS SWITCH TO TEST. DOES CAPSULE COME ON?
NO
REPLACE CAUTION PANEL.
YES
YES
FAULT CORRECTED.
OPEN RIGHT HAND ELECTRICAL COMPARTMENT. DISCONNECT PLUG 241P9 FROM GCU. CONNECT JUMPER BETWEEN PLUG 241P9 PIN G AND C. DOES CAPSULE COME ON?
NO
CHECK FOR 28VDC AT PLUG 241P9 PIN C. IS VOLTAGE PRESENT?
NO
LOCATE OPEN IN WIRE W639-243-22 OR W673-62-22 BETWEEN PLUG 241P9 AND TB17. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
YES
REPLACE NO. 2 GENERATOR GCU.
OPEN NO. 2 PDP. DISCONNECT PLUG 241P4 FROM NO. 2 GENERATOR CONTACTOR 241K2. CHECK CONTINUITY BETWEEN PLUG 241P4 PIN X AND PLUG 241P9 PIN G. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W552-81-22, W639-233-22, OR W673-63-22 BETWEEN PLUG 241P4 AND PLUG 241P9. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE NO. 2 GENERATOR CONTACTOR
YES
REMOVE MASTER CAUTION PANEL. DISCONNECT PLUG 232P1 FROM PANEL. CHECK CONTINUITY BETWEEN PLUG 232P1 PIN Z AND PLUG 241P4 PIN Y. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W557-222-22, W639-232-22, OR W552-64-22 BETWEEN PLUG 232P1 AND PLUG 241P4. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-2.7 NO. 1 GENERATOR OFF CAPSULE STAYS ON (GENERATOR SWITCH IN TEST)

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

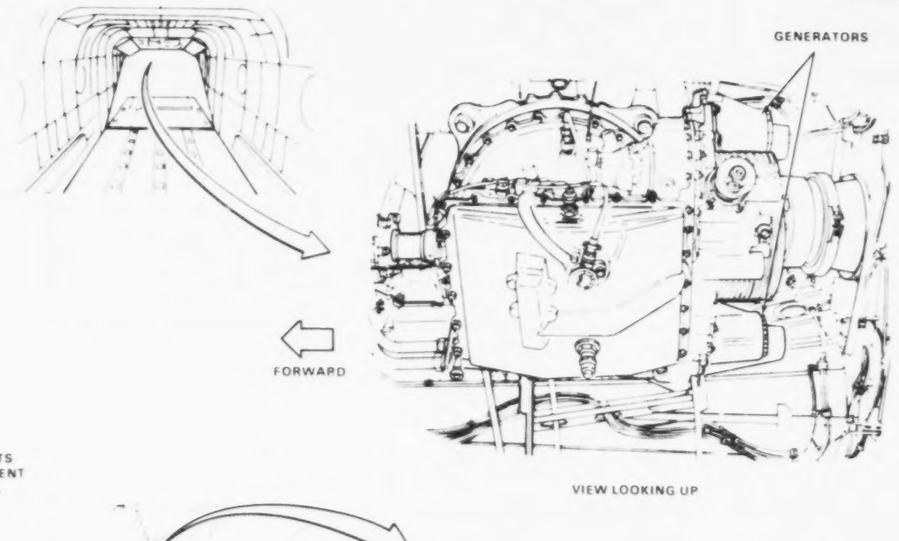
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Multimeter

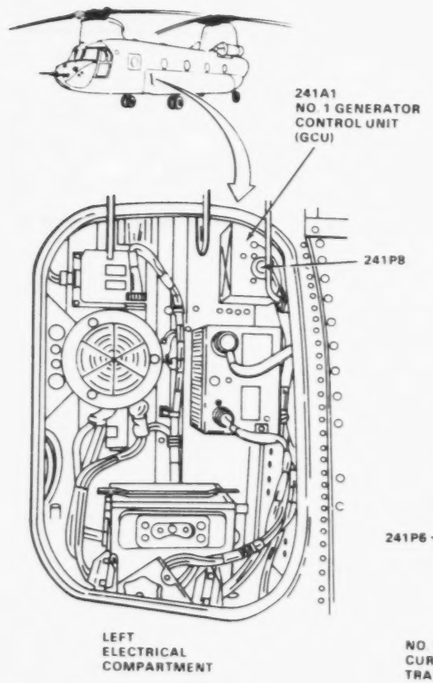
Materials:
None

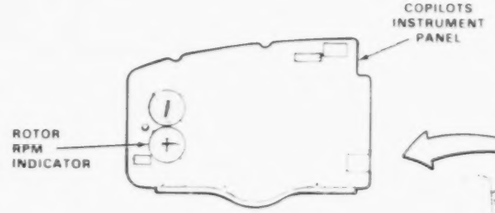
Personnel Required:
68F20 Aircraft Electrician

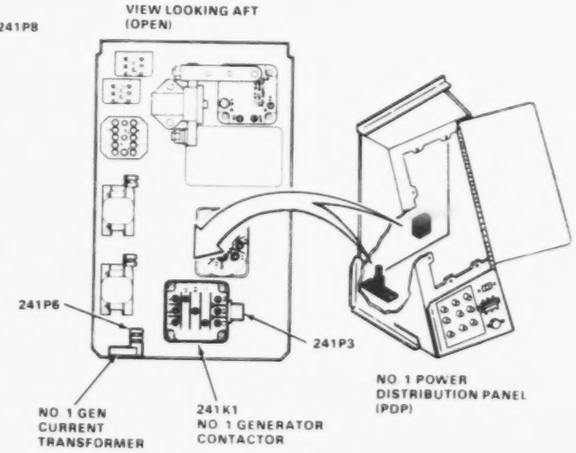
References:
TM 55-1520-240-23

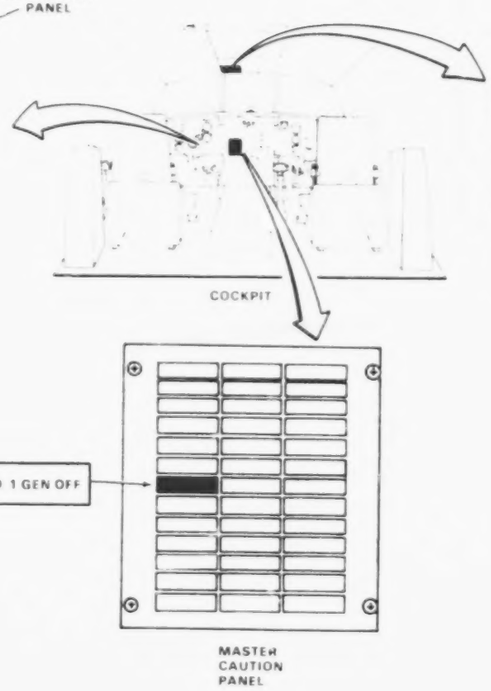
Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

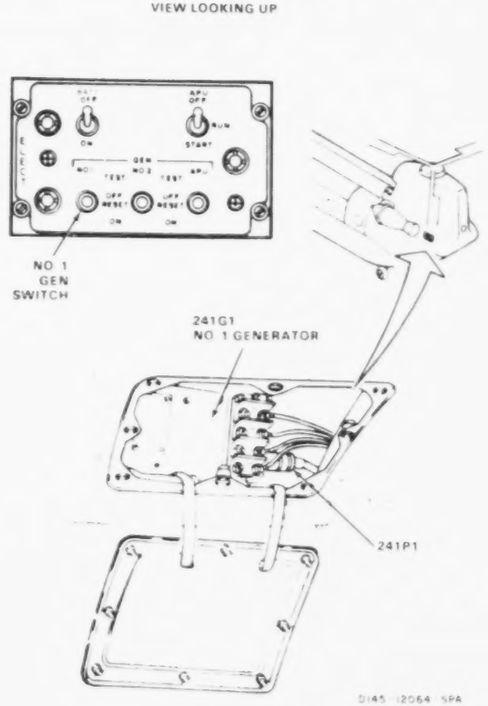












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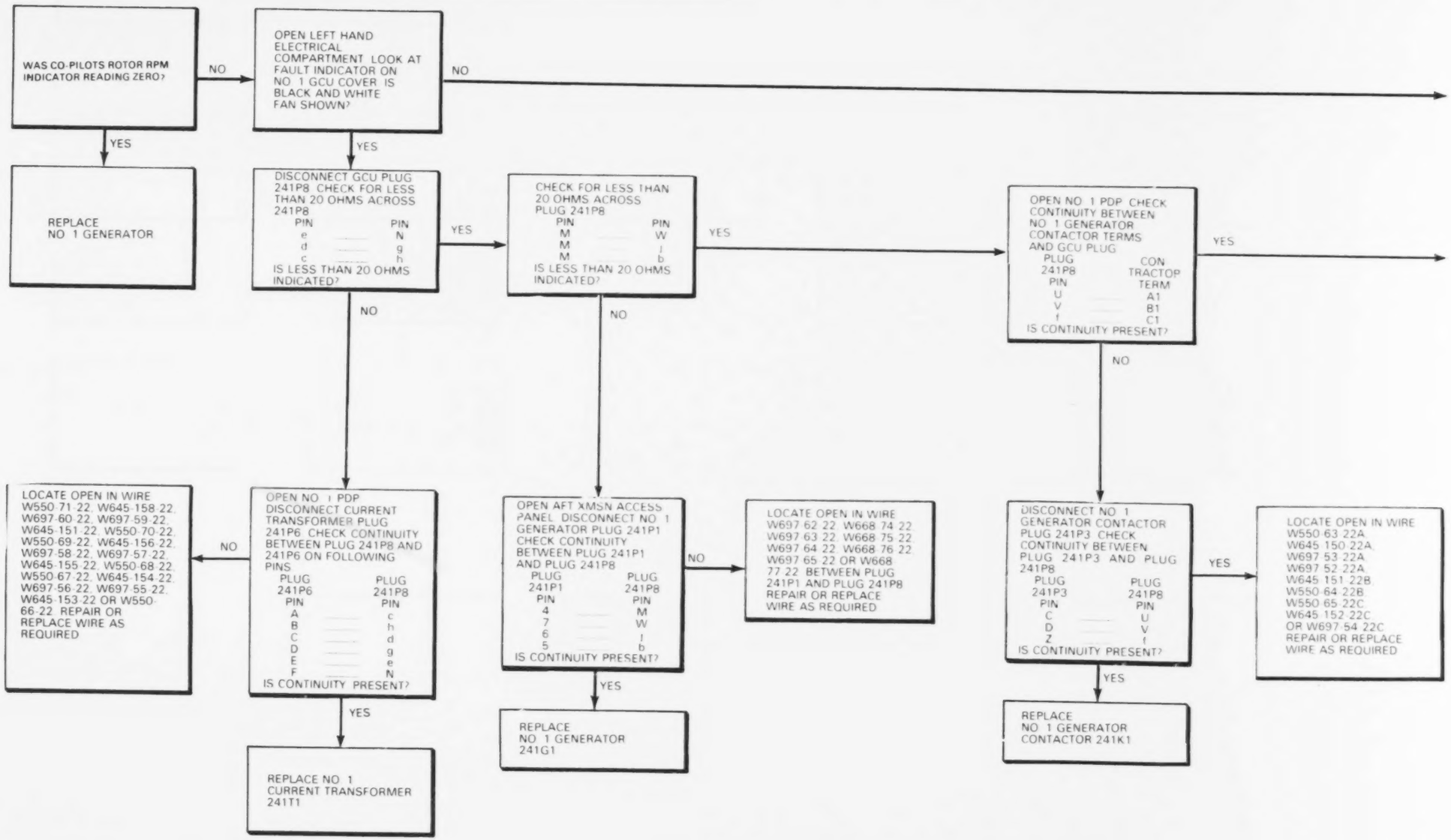
9-2.7 NO. 1 GENERATOR OFF CAPSULE STAYS ON (GENERATOR SWITCH IN TEST) (Continued)


WAS CO-PILOTS ROTOR RPM INDICATOR READING ZERO?
NO
YES
REPLACE NO 1 GENERATOR
OPEN LEFT HAND ELECTRICAL COMPARTMENT LOOK AT FAULT INDICATOR ON NO 1 GCU COVER IS BLACK AND WHITE FAN SHOWN?
NO
YES
DISCONNECT GCU PLUG 241P8 CHECK FOR LESS THAN 20 OHMS ACROSS 241P8
PIN — PIN
e — N
d — g
c — h
IS LESS THAN 20 OHMS INDICATED?
YES
CHECK FOR LESS THAN 20 OHMS ACROSS PLUG 241P8
PIN — PIN
M — W
M — j
M — b
IS LESS THAN 20 OHMS INDICATED?
YES
OPEN NO 1 PDP CHECK CONTINUITY BETWEEN NO 1 GENERATOR CONTACTOR TERMS AND GCU PLUG
PLUG 241P8 PIN — CONTRACTOR TERM
U — A1
V — B1
f — C1
IS CONTINUITY PRESENT?
YES
NO
NO
NO
NO
LOCATE OPEN IN WIRE W550-71-22, W645-158-22, W697-60-22, W697-59-22, W645-151-22, W550-70-22, W550-69-22, W645-156-22, W697-58-22, W697-57-22, W645-155-22, W550-68-22, W550-67-22, W645-154-22, W697-56-22, W697-55-22, W645-153-22 OR W550-66-22 REPAIR OR REPLACE WIRE AS REQUIRED
OPEN NO 1 PDP DISCONNECT CURRENT TRANSFORMER PLUG 241P6 CHECK CONTINUITY BETWEEN PLUG 241P8 AND 241P6 ON FOLLOWING PINS
PLUG 241P6 PIN — PLUG 241P8 PIN
A — c
B — h
C — d
D — g
E — e
F — N
IS CONTINUITY PRESENT?
YES
REPLACE NO 1 CURRENT TRANSFORMER 241T1
OPEN AFT XMSN ACCESS PANEL DISCONNECT NO 1 GENERATOR PLUG 241P1 CHECK CONTINUITY BETWEEN PLUG 241P1 AND PLUG 241P8
PLUG 241P1 PIN — PLUG 241P8 PIN
4 — M
7 — W
6 — l
5 — b
IS CONTINUITY PRESENT?
YES
REPLACE NO 1 GENERATOR 241G1
LOCATE OPEN IN WIRE W697-62-22, W668-74-22, W697-63-22, W668-75-22, W697-64-22, W668-76-22, W697-65-22 OR W668-77-22 BETWEEN PLUG 241P1 AND PLUG 241P8 REPAIR OR REPLACE WIRE AS REQUIRED
DISCONNECT NO 1 GENERATOR CONTACTOR PLUG 241P3 CHECK CONTINUITY BETWEEN PLUG 241P3 AND PLUG 241P8
PLUG 241P3 PIN — PLUG 241P8 PIN
C — U
D — V
Z — f
IS CONTINUITY PRESENT?
YES
REPLACE NO 1 GENERATOR CONTACTOR 241K1
YES
LOCATE OPEN IN WIRE W550-63-22A, W645-150-22A, W697-53-22A, W697-52-22A, W645-151-22B, W550-64-22B, W550-65-22C, W645-152-22C OR W697-54-22C REPAIR OR REPLACE WIRE AS REQUIRED

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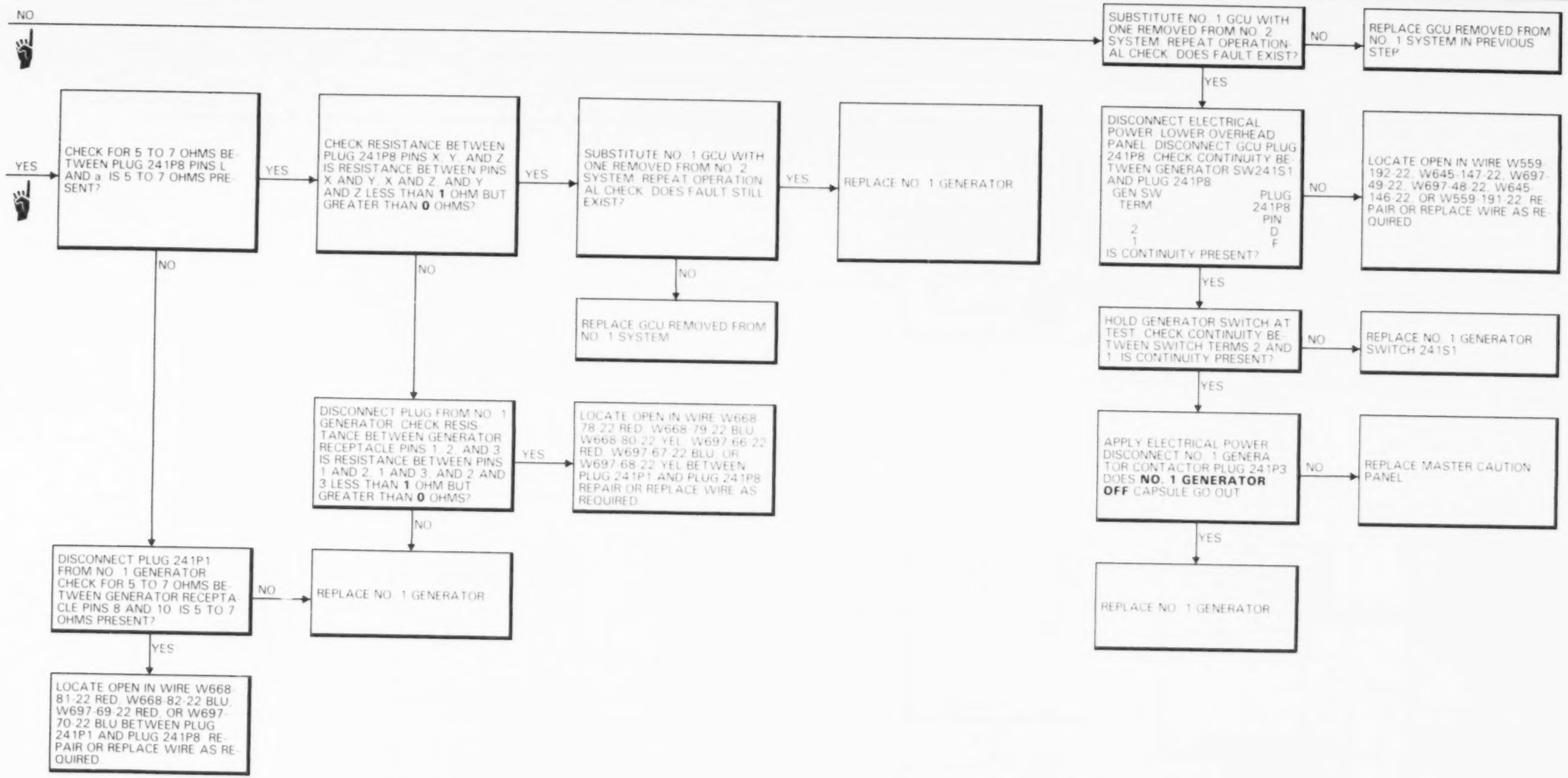
9-2.7 NO. 1 GENERATOR OFF CAPSULE STAYS ON (GENERATOR SWITCH IN TEST) (Continued)


NO
YES
CHECK FOR 5 TO 7 OHMS BETWEEN PLUG 241P8 PINS L AND a. IS 5 TO 7 OHMS PRESENT?
YES
CHECK RESISTANCE BETWEEN PLUG 241P8 PINS X, Y, AND Z. IS RESISTANCE BETWEEN PINS X AND Y, X AND Z, AND Y AND Z LESS THAN 1 OHM BUT GREATER THAN 0 OHMS?
YES
SUBSTITUTE NO. 1 GCU WITH ONE REMOVED FROM NO. 2 SYSTEM. REPEAT OPERATIONAL CHECK. DOES FAULT STILL EXIST?
YES
REPLACE NO. 1 GENERATOR
NO
REPLACE GCU REMOVED FROM NO. 1 SYSTEM
NO
DISCONNECT PLUG FROM NO. 1 GENERATOR. CHECK RESISTANCE BETWEEN GENERATOR RECEPTACLE PINS 1, 2, AND 3. IS RESISTANCE BETWEEN PINS 1 AND 2, 1 AND 3, AND 2 AND 3 LESS THAN 1 OHM BUT GREATER THAN 0 OHMS?
YES
LOCATE OPEN IN WIRE W668-78-22 RED, W668-79-22 BLU, W668-80-22 YEL, W697-66-22 RED, W697-67-22 BLU, OR W697-68-22 YEL BETWEEN PLUG 241P1 AND PLUG 241P8. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
DISCONNECT PLUG 241P1 FROM NO. 1 GENERATOR. CHECK FOR 5 TO 7 OHMS BETWEEN GENERATOR RECEPTACLE PINS 8 AND 10. IS 5 TO 7 OHMS PRESENT?
NO
REPLACE NO. 1 GENERATOR
YES
LOCATE OPEN IN WIRE W668-81-22 RED, W668-82-22 BLU, W697-69-22 RED, OR W697-70-22 BLU BETWEEN PLUG 241P1 AND PLUG 241P8. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
SUBSTITUTE NO. 1 GCU WITH ONE REMOVED FROM NO. 2 SYSTEM. REPEAT OPERATIONAL CHECK. DOES FAULT EXIST?
NO
REPLACE GCU REMOVED FROM NO. 1 SYSTEM IN PREVIOUS STEP
YES
DISCONNECT ELECTRICAL POWER. LOWER OVERHEAD PANEL. DISCONNECT GCU PLUG 241P8. CHECK CONTINUITY BETWEEN GENERATOR SW241S1 AND PLUG 241P8
GEN SW TERM
PLUG 241P8 PIN
2 D
1 F
IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W559-192-22, W645-147-22, W697-49-22, W697-48-22, W645-146-22, OR W559-191-22. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
HOLD GENERATOR SWITCH AT TEST. CHECK CONTINUITY BETWEEN SWITCH TERMS 2 AND 1. IS CONTINUITY PRESENT?
NO
REPLACE NO. 1 GENERATOR SWITCH 241S1
YES
APPLY ELECTRICAL POWER. DISCONNECT NO. 1 GENERATOR CONTACTOR PLUG 241P3. DOES NO. 1 GENERATOR OFF CAPSULE GO OUT
NO
REPLACE MASTER CAUTION PANEL
YES
REPLACE NO. 1 GENERATOR

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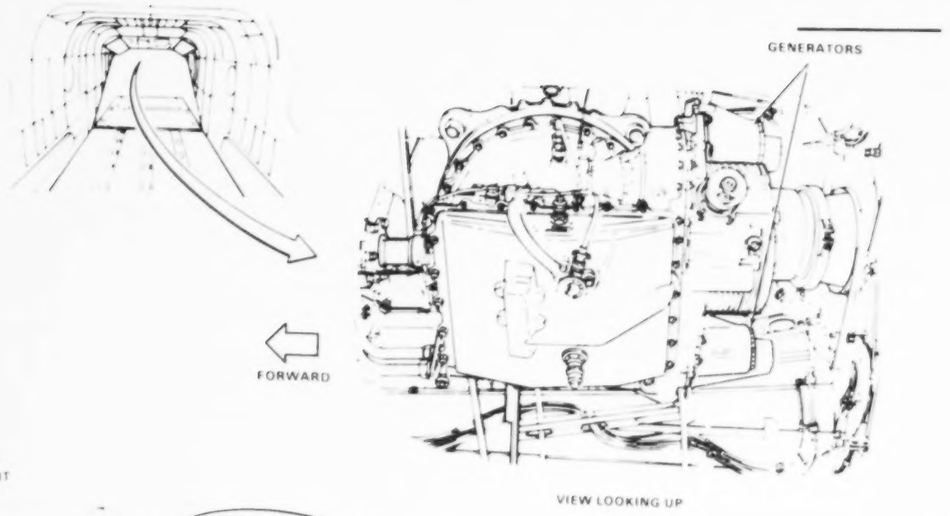
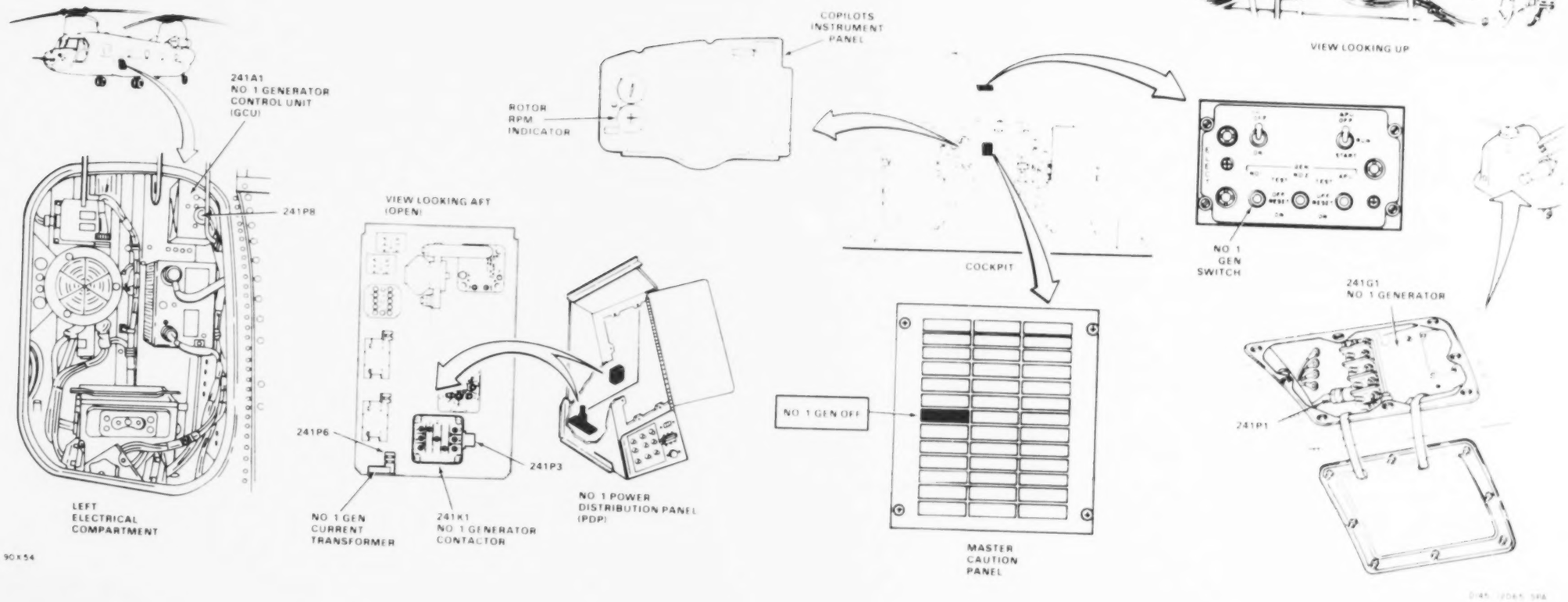
9-2.7 NO. 1 GENERATOR OFF CAPSULE STAYS ON (GENERATOR SWITCH IN TEST) (Continued)





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END OF TASK

9-2.8 NO. 1 GENERATOR OFF CAPSULE IS ON (GENERATOR SWITCH ON)

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Aircraft Mechanic's Tool Kit
NSN 5180-00-323-4692
Multimeter

Materials:
None

Personnel Required:
67U20 Medium Helicopter Repairer
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power Off
Hydraulic Power Off

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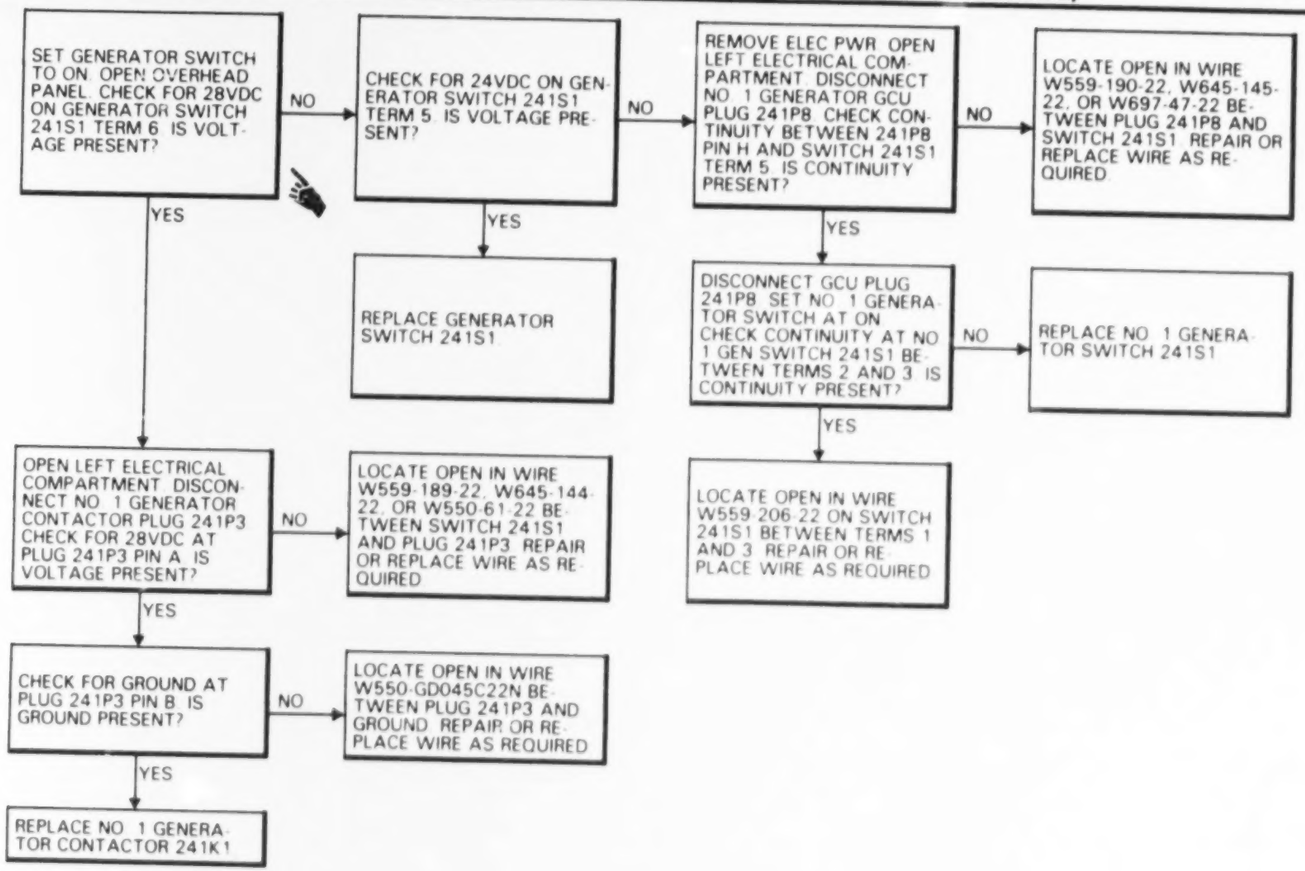

SET GENERATOR SWITCH TO ON. OPEN OVERHEAD PANEL. CHECK FOR 28VDC ON GENERATOR SWITCH 241S1 TERM 6. IS VOLTAGE PRESENT?
NO
CHECK FOR 24VDC ON GENERATOR SWITCH 241S1 TERM 5. IS VOLTAGE PRESENT?
NO
REMOVE ELEC PWR. OPEN LEFT ELECTRICAL COMPARTMENT. DISCONNECT NO. 1 GENERATOR GCU PLUG 241P8. CHECK CONTINUITY BETWEEN 241P8 PIN H AND SWITCH 241S1 TERM 5. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W559-190-22, W645-145-22, OR W697-47-22 BETWEEN PLUG 241P8 AND SWITCH 241S1. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE GENERATOR SWITCH 241S1.
YES
DISCONNECT GCU PLUG 241P8. SET NO. 1 GENERATOR SWITCH AT ON. CHECK CONTINUITY AT NO. 1 GEN SWITCH 241S1 BETWEEN TERMS 2 AND 3. IS CONTINUITY PRESENT?
NO
REPLACE NO. 1 GENERATOR SWITCH 241S1.
YES
LOCATE OPEN IN WIRE W559-206-22 ON SWITCH 241S1 BETWEEN TERMS 1 AND 3. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
OPEN LEFT ELECTRICAL COMPARTMENT. DISCONNECT NO. 1 GENERATOR CONTACTOR PLUG 241P3. CHECK FOR 28VDC AT PLUG 241P3 PIN A. IS VOLTAGE PRESENT?
NO
LOCATE OPEN IN WIRE W559-189-22, W645-144-22, OR W550-61-22 BETWEEN SWITCH 241S1 AND PLUG 241P3. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR GROUND AT PLUG 241P3 PIN B. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W550-GD045C22N BETWEEN PLUG 241P3 AND GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE NO. 1 GENERATOR CONTACTOR 241K1.

END OF TASK

9-2.9 NO. 1 AND NO. 2 RECT OFF CAPSULES ON (NO. 1 GENERATOR SELECTED)

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

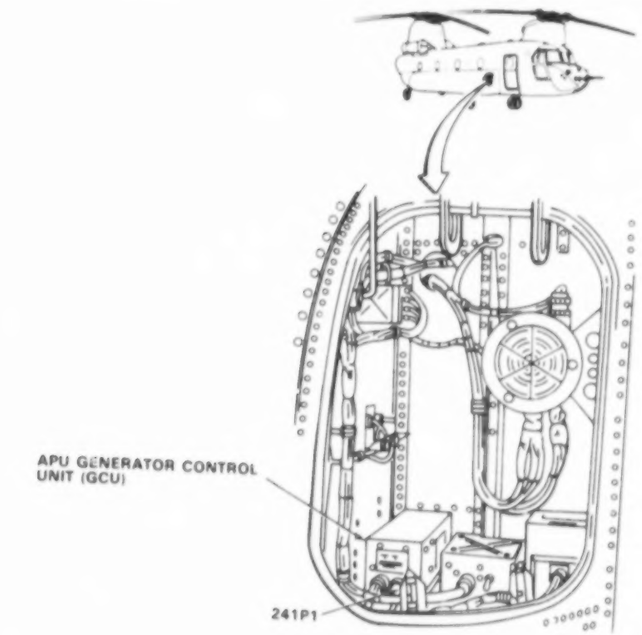
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



RIGHT ELECTRICAL COMPARTMENT

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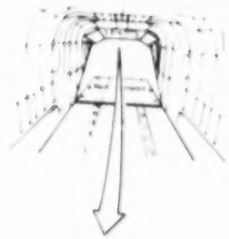

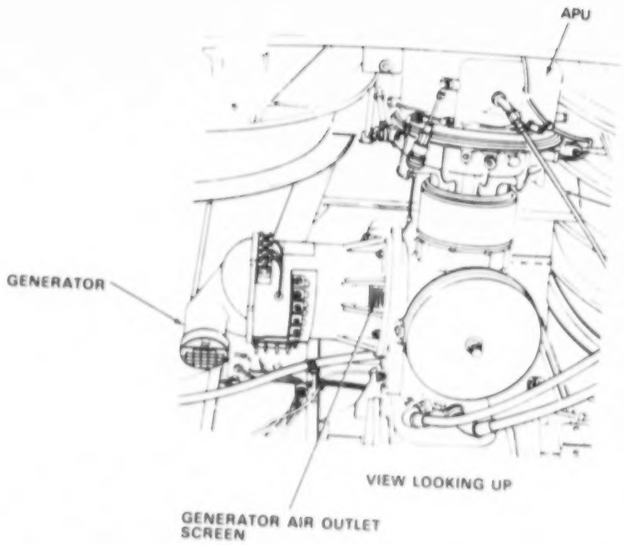

VIEW LOOKING UP

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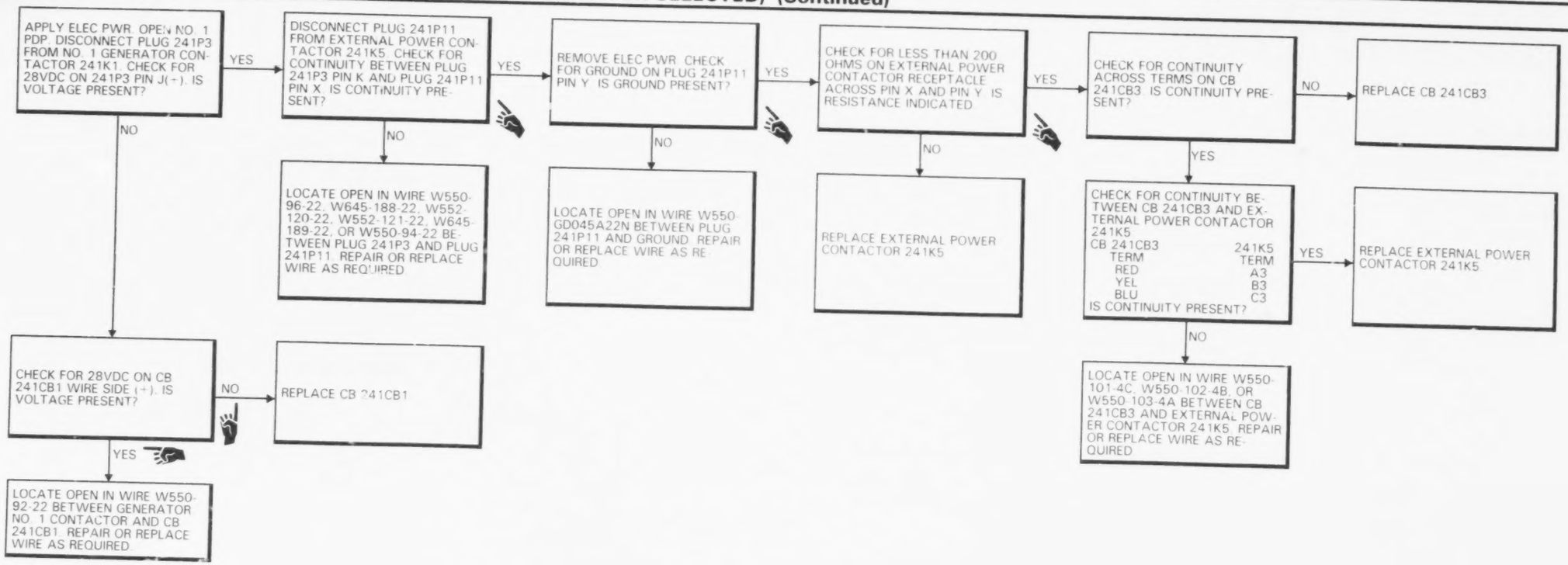

APPLY ELEC PWR. OPEN NO. 1 PDP. DISCONNECT PLUG 241P3 FROM NO. 1 GENERATOR CONTACTOR 241K1. CHECK FOR 28VDC ON 241P3 PIN J(+). IS VOLTAGE PRESENT?
YES
NO
DISCONNECT PLUG 241P11 FROM EXTERNAL POWER CONTACTOR 241K5. CHECK FOR CONTINUITY BETWEEN PLUG 241P3 PIN K AND PLUG 241P11 PIN X. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W550-96-22, W645-188-22, W552-120-22, W552-121-22, W645-189-22, OR W550-94-22 BETWEEN PLUG 241P3 AND PLUG 241P11. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE ELEC PWR. CHECK FOR GROUND ON PLUG 241P11 PIN Y. IS GROUND PRESENT?
YES
NO
LOCATE OPEN IN WIRE W550-GD045A22N BETWEEN PLUG 241P11 AND GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR LESS THAN 200 OHMS ON EXTERNAL POWER CONTACTOR RECEPTACLE ACROSS PIN X AND PIN Y. IS RESISTANCE INDICATED
YES
NO
REPLACE EXTERNAL POWER CONTACTOR 241K5
CHECK FOR CONTINUITY ACROSS TERMS ON CB 241CB3. IS CONTINUITY PRESENT?
NO
REPLACE CB 241CB3
YES
CHECK FOR CONTINUITY BETWEEN CB 241CB3 AND EXTERNAL POWER CONTACTOR 241K5
CB 241CB3 TERM
RED
YEL
BLU
241K5 TERM
A3
B3
C3
IS CONTINUITY PRESENT?
YES
REPLACE EXTERNAL POWER CONTACTOR 241K5
NO
LOCATE OPEN IN WIRE W550-101-4C, W550-102-4B, OR W550-103-4A BETWEEN CB 241CB3 AND EXTERNAL POWER CONTACTOR 241K5. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR 28VDC ON CB 241CB1 WIRE SIDE (+). IS VOLTAGE PRESENT?
NO
REPLACE CB 241CB1
YES
LOCATE OPEN IN WIRE W550-92-22 BETWEEN GENERATOR NO. 1 CONTACTOR AND CB 241CB1. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

9-2.10 NO. 2 GENERATOR OFF CAPSULE STAYS ON (GENERATOR SWITCH IN TEST)

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

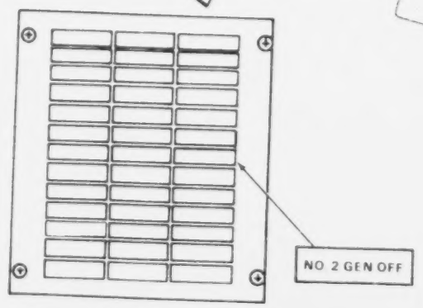
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Aircraft Mechanic's Tool Kit
NSN 5180-00-323-4692
Multimeter

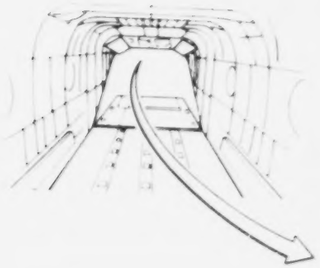
Materials:
None

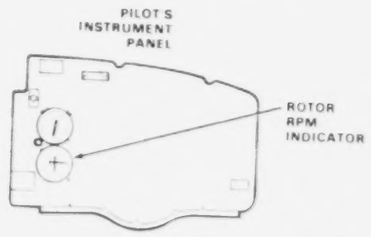
Personnel Required:
67U20 Medium Helicopter Repairer
68F20 Aircraft Electrician

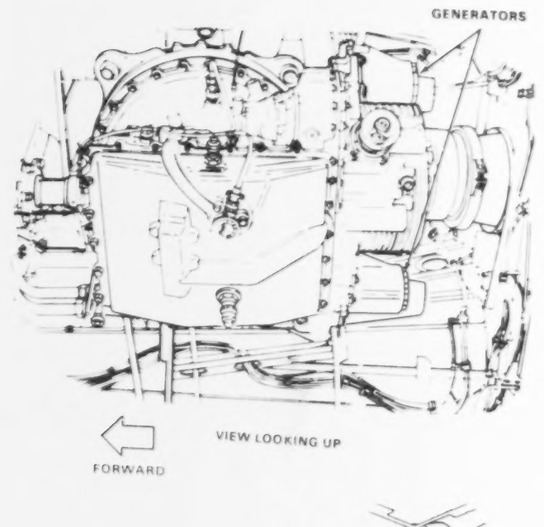
References:
TM 55-1520-240-23

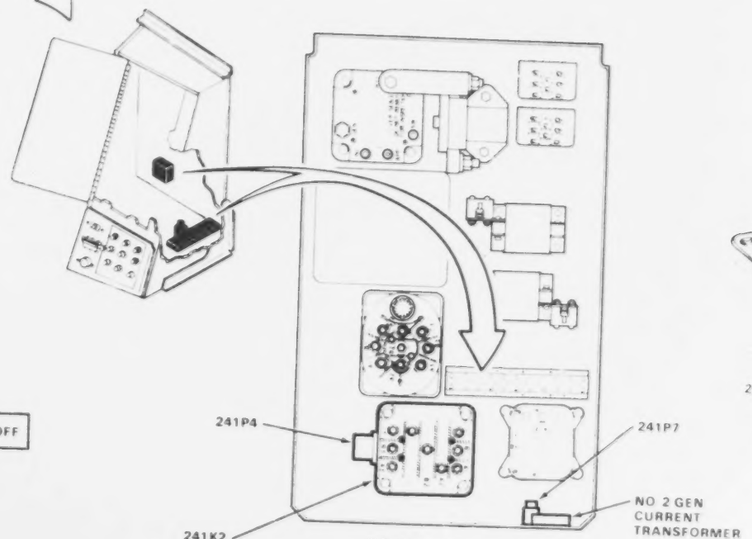
Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

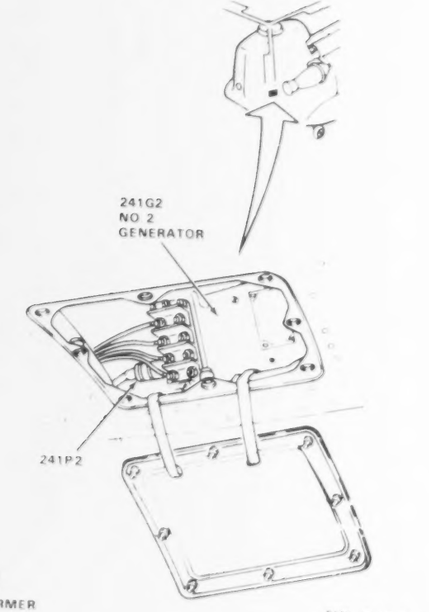












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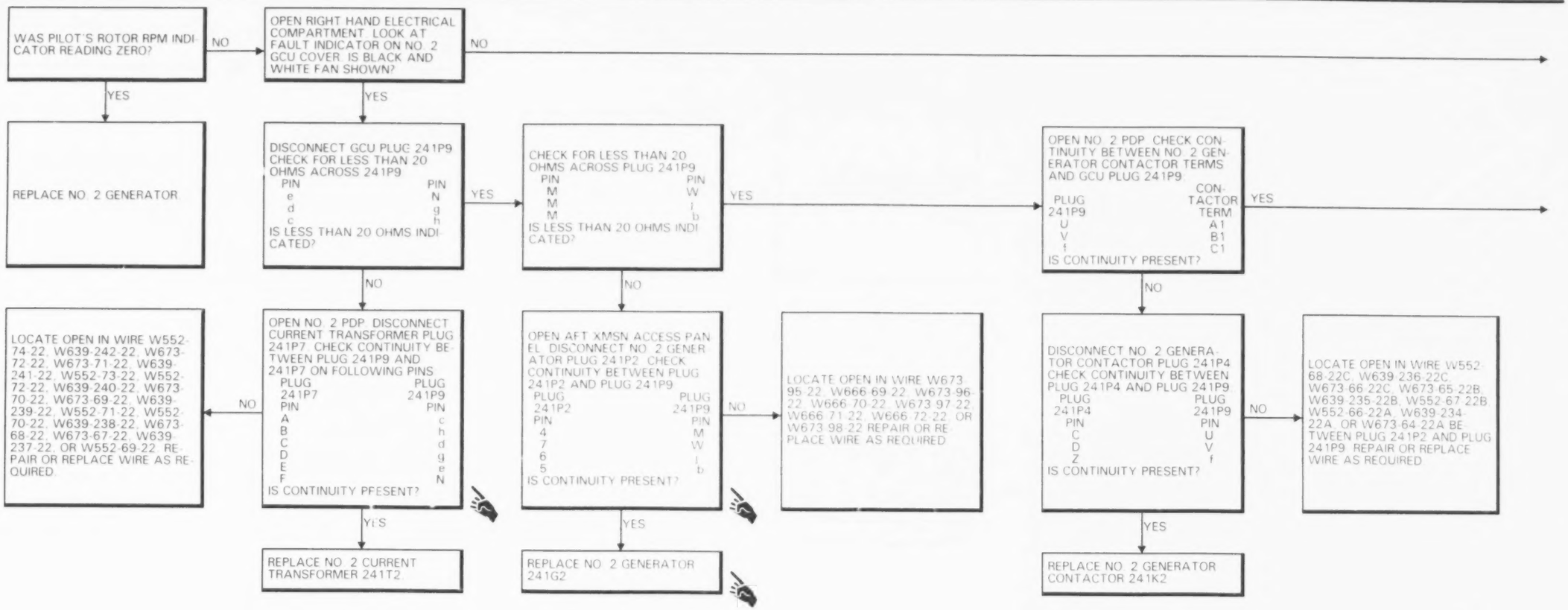
9-2.10 NO. 2 GENERATOR OFF CAPSULE STAYS ON (GENERATOR SWITCH IN TEST) (Continued)


WAS PILOT'S ROTOR RPM INDICATOR READING ZERO?
NO
YES
REPLACE NO. 2 GENERATOR.
OPEN RIGHT HAND ELECTRICAL COMPARTMENT. LOOK AT FAULT INDICATOR ON NO. 2 GCU COVER. IS BLACK AND WHITE FAN SHOWN?
NO
YES
DISCONNECT GCU PLUG 241P9. CHECK FOR LESS THAN 20 OHMS ACROSS 241P9.
PIN PIN
e N
d g
c h
IS LESS THAN 20 OHMS INDICATED?
YES
NO
CHECK FOR LESS THAN 20 OHMS ACROSS PLUG 241P9.
PIN PIN
M W
M j
M b
IS LESS THAN 20 OHMS INDICATED?
YES
NO
OPEN NO. 2 PDP. CHECK CONTINUITY BETWEEN NO. 2 GENERATOR CONTACTOR TERMS AND GCU PLUG 241P9.
PLUG CONTACTOR TERM
241P9
U A1
V B1
f C1
IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W552-74-22, W639-242-22, W673-72-22, W673-71-22, W639-241-22, W552-73-22, W552-72-22, W639-240-22, W673-70-22, W673-69-22, W639-239-22, W552-71-22, W552-70-22, W639-238-22, W673-68-22, W673-67-22, W639-237-22, OR W552-69-22. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
OPEN NO. 2 PDP. DISCONNECT CURRENT TRANSFORMER PLUG 241P7. CHECK CONTINUITY BETWEEN PLUG 241P9 AND 241P7 ON FOLLOWING PINS.
PLUG PLUG
241P7 241P9
PIN PIN
A c
B h
C d
D g
E e
F N
IS CONTINUITY PRESENT?
YES
REPLACE NO. 2 CURRENT TRANSFORMER 241T2.
OPEN AFT XMSN ACCESS PANEL. DISCONNECT NO. 2 GENERATOR PLUG 241P2. CHECK CONTINUITY BETWEEN PLUG 241P2 AND PLUG 241P9.
PLUG PLUG
241P2 241P9
PIN PIN
4 M
7 W
6 j
5 b
IS CONTINUITY PRESENT?
NO
YES
LOCATE OPEN IN WIRE W673-95-22, W666-69-22, W673-96-22, W666-70-22, W673-97-22, W666-71-22, W666-72-22, OR W673-98-22. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE NO. 2 GENERATOR 241G2.
DISCONNECT NO. 2 GENERATOR CONTACTOR PLUG 241P4. CHECK CONTINUITY BETWEEN PLUG 241P4 AND PLUG 241P9.
PLUG PLUG
241P4 241P9
PIN PIN
C U
D V
Z f
IS CONTINUITY PRESENT?
NO
YES
LOCATE OPEN IN WIRE W552-68-22C, W639-236-22C, W673-66-22C, W673-65-22B, W639-235-22B, W552-67-22B, W552-66-22A, W639-234-22A, OR W673-64-22A BETWEEN PLUG 241P2 AND PLUG 241P9. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE NO. 2 GENERATOR CONTACTOR 241K2.

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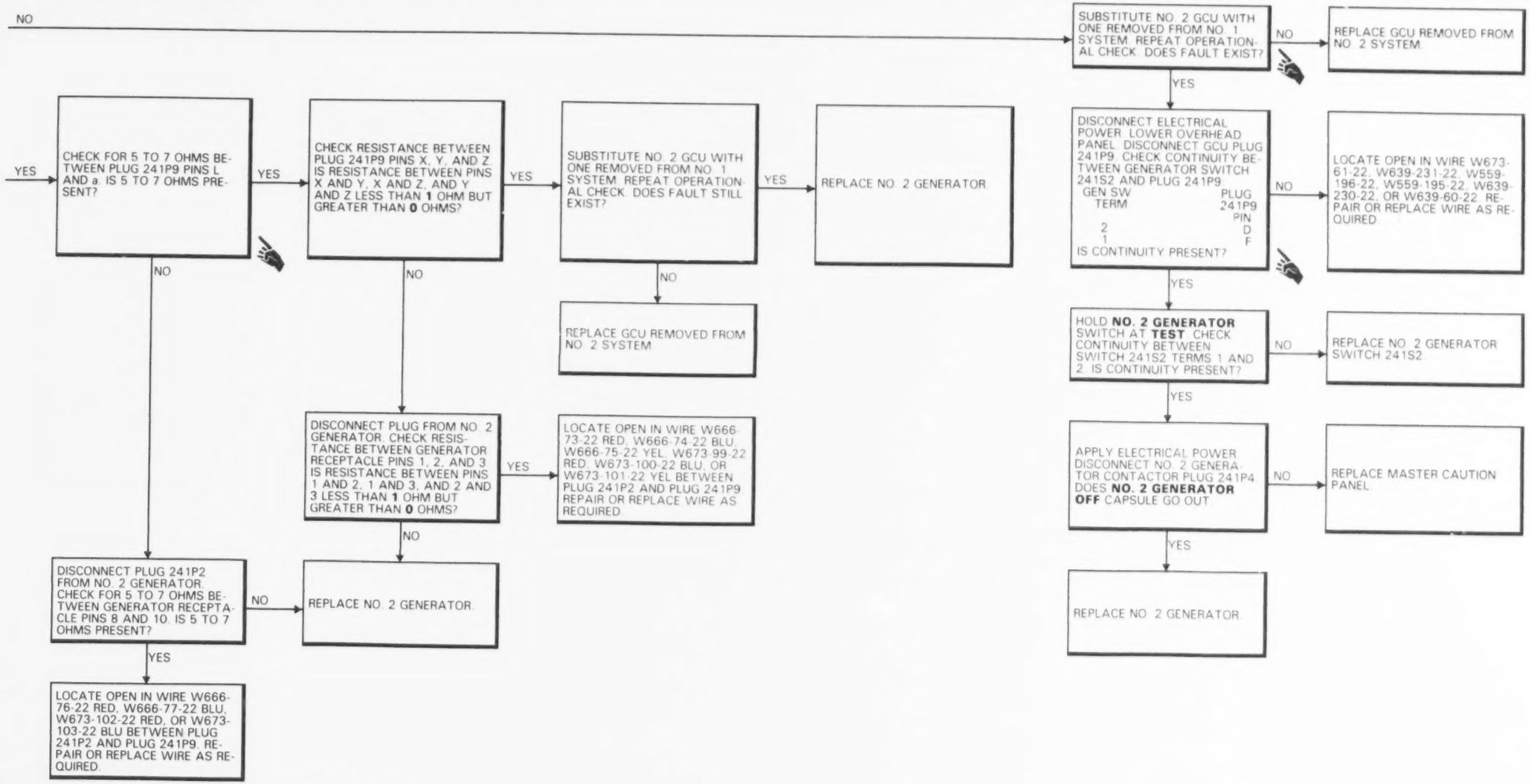
9-2.10 NO. 2 GENERATOR OFF CAPSULE STAYS ON (GENERATOR SWITCH IN TEST) (Continued)


NO
SUBSTITUTE NO. 2 GCU WITH ONE REMOVED FROM NO. 1 SYSTEM. REPEAT OPERATIONAL CHECK. DOES FAULT EXIST?
NO
REPLACE GCU REMOVED FROM NO. 2 SYSTEM.
YES
YES
CHECK FOR 5 TO 7 OHMS BETWEEN PLUG 241P9 PINS L AND a. IS 5 TO 7 OHMS PRESENT?
YES
CHECK RESISTANCE BETWEEN PLUG 241P9 PINS X, Y, AND Z. IS RESISTANCE BETWEEN PINS X AND Y, X AND Z, AND Y AND Z LESS THAN 1 OHM BUT GREATER THAN 0 OHMS?
YES
SUBSTITUTE NO. 2 GCU WITH ONE REMOVED FROM NO. 1 SYSTEM. REPEAT OPERATIONAL CHECK. DOES FAULT STILL EXIST?
YES
REPLACE NO. 2 GENERATOR.
NO
REPLACE GCU REMOVED FROM NO. 2 SYSTEM.
DISCONNECT ELECTRICAL POWER. LOWER OVERHEAD PANEL. DISCONNECT GCU PLUG 241P9. CHECK CONTINUITY BETWEEN GENERATOR SWITCH 241S2 AND PLUG 241P9.
GEN SW TERM — PLUG 241P9 PIN
2 — D
1 — F
IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W673-61-22, W639-231-22, W559-196-22, W559-195-22, W639-230-22, OR W639-60-22. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
HOLD NO. 2 GENERATOR SWITCH AT TEST. CHECK CONTINUITY BETWEEN SWITCH 241S2 TERMS 1 AND 2. IS CONTINUITY PRESENT?
NO
REPLACE NO. 2 GENERATOR SWITCH 241S2.
YES
APPLY ELECTRICAL POWER. DISCONNECT NO. 2 GENERATOR CONTACTOR PLUG 241P4. DOES NO. 2 GENERATOR OFF CAPSULE GO OUT.
NO
REPLACE MASTER CAUTION PANEL.
YES
REPLACE NO. 2 GENERATOR.
NO
DISCONNECT PLUG FROM NO. 2 GENERATOR. CHECK RESISTANCE BETWEEN GENERATOR RECEPTACLE PINS 1, 2, AND 3. IS RESISTANCE BETWEEN PINS 1 AND 2, 1 AND 3, AND 2 AND 3 LESS THAN 1 OHM BUT GREATER THAN 0 OHMS?
YES
LOCATE OPEN IN WIRE W666-73-22 RED, W666-74-22 BLU, W666-75-22 YEL, W673-99-22 RED, W673-100-22 BLU, OR W673-101-22 YEL BETWEEN PLUG 241P2 AND PLUG 241P9. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
DISCONNECT PLUG 241P2 FROM NO. 2 GENERATOR. CHECK FOR 5 TO 7 OHMS BETWEEN GENERATOR RECEPTACLE PINS 8 AND 10. IS 5 TO 7 OHMS PRESENT?
NO
REPLACE NO. 2 GENERATOR.
YES
LOCATE OPEN IN WIRE W666-76-22 RED, W666-77-22 BLU, W673-102-22 RED, OR W673-103-22 BLU BETWEEN PLUG 241P2 AND PLUG 241P9. REPAIR OR REPLACE WIRE AS REQUIRED.

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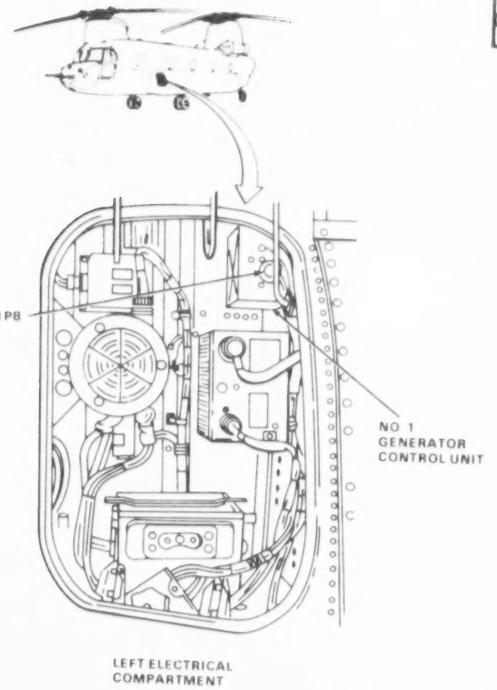
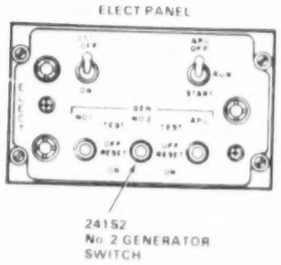
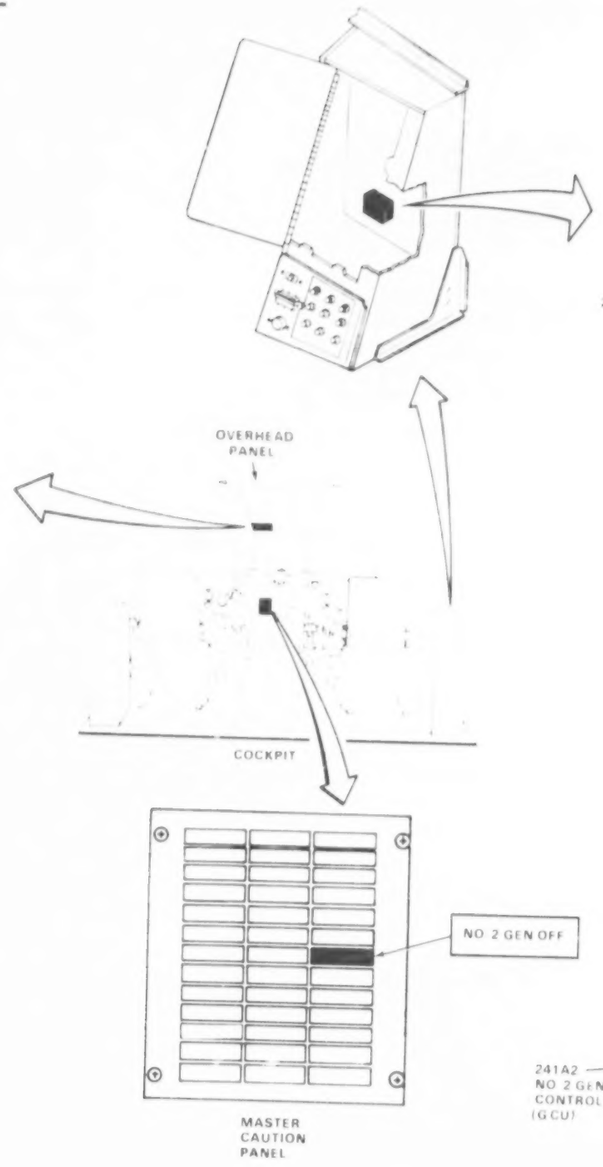
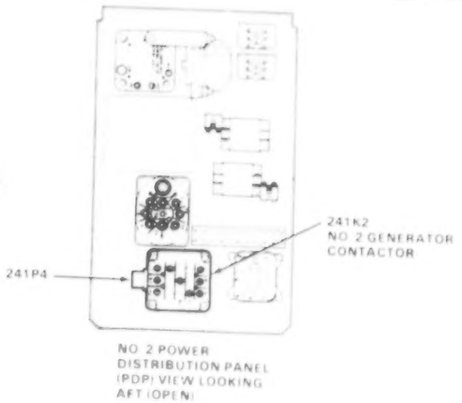
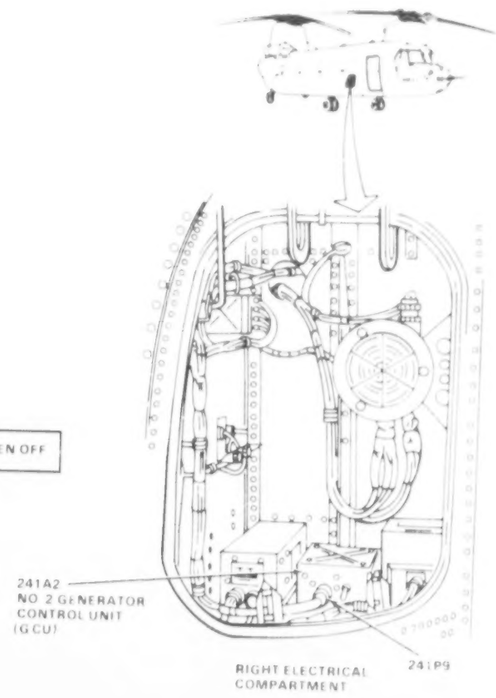
9-2.10 NO. 2 GENERATOR OFF CAPSULE STAYS ON (GENERATOR SWITCH IN TEST) (Continued)











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END OF TASK

9-2.11 NO. 2 GENERATOR OFF CAPSULE IS ON (GENERATOR SWITCH ON)

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

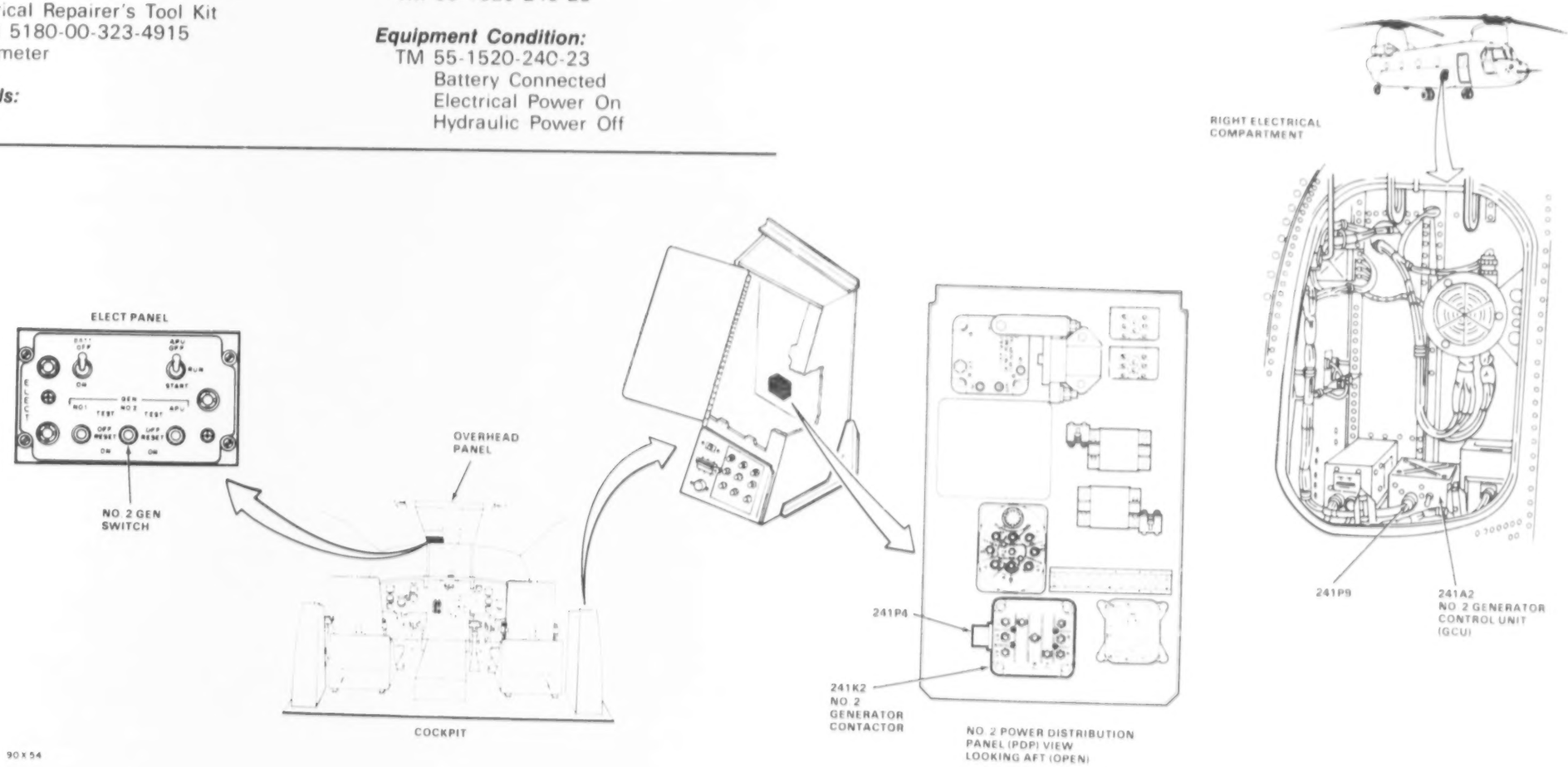
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



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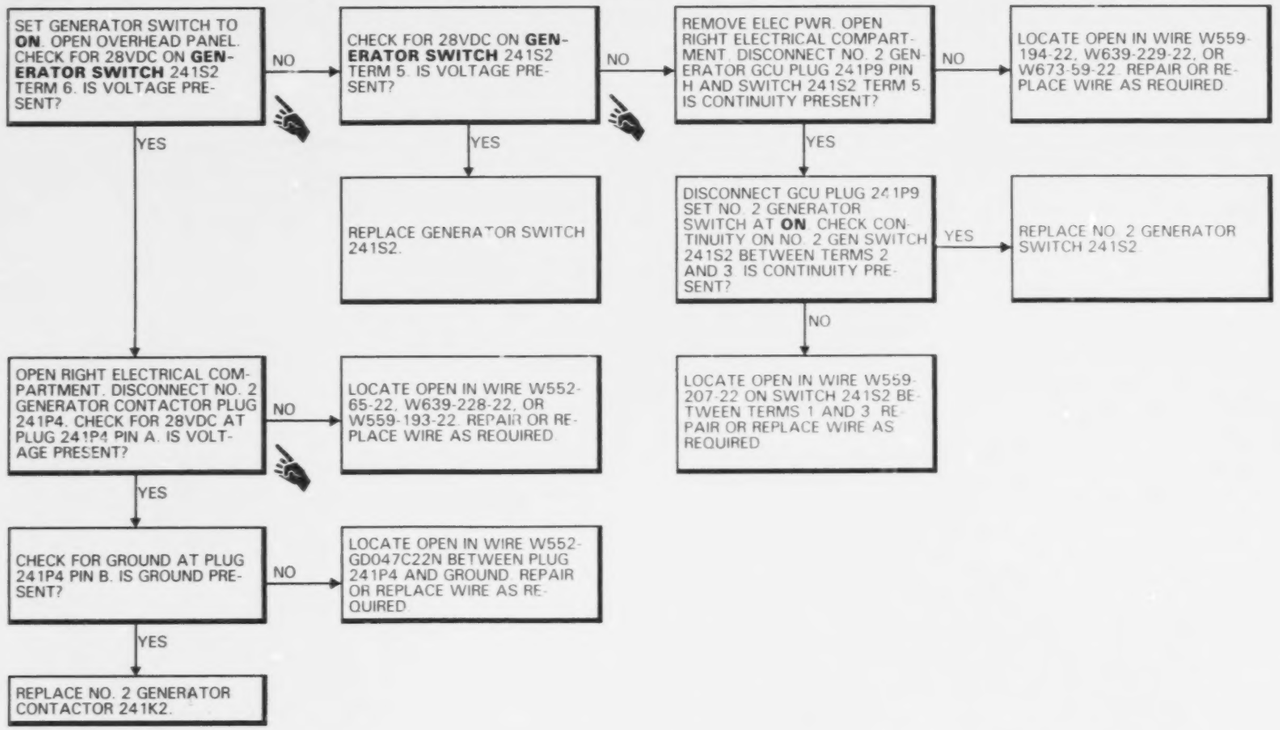
SET GENERATOR SWITCH TO **ON**. OPEN OVERHEAD PANEL. CHECK FOR 28VDC ON **GENERATOR SWITCH** 241S2 TERM 6. IS VOLTAGE PRESENT?
NO
CHECK FOR 28VDC ON **GENERATOR SWITCH** 241S2 TERM 5. IS VOLTAGE PRESENT?
NO
REMOVE ELEC PWR. OPEN RIGHT ELECTRICAL COMPARTMENT. DISCONNECT NO. 2 GENERATOR GCU PLUG 241P9 PIN H AND SWITCH 241S2 TERM 5. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W559-194-22, W639-229-22, OR W673-59-22. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE GENERATOR SWITCH 241S2.
YES
DISCONNECT GCU PLUG 241P9. SET NO. 2 GENERATOR SWITCH AT **ON**. CHECK CONTINUITY ON NO. 2 GEN SWITCH 241S2 BETWEEN TERMS 2 AND 3. IS CONTINUITY PRESENT?
YES
REPLACE NO. 2 GENERATOR SWITCH 241S2.
NO
LOCATE OPEN IN WIRE W559-207-22 ON SWITCH 241S2 BETWEEN TERMS 1 AND 3. REPAIR OR REPLACE WIRE AS REQUIRED.
OPEN RIGHT ELECTRICAL COMPARTMENT. DISCONNECT NO. 2 GENERATOR CONTACTOR PLUG 241P4. CHECK FOR 28VDC AT PLUG 241P4 PIN A. IS VOLTAGE PRESENT?
NO
LOCATE OPEN IN WIRE W552-65-22, W639-228-22, OR W559-193-22. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR GROUND AT PLUG 241P4 PIN B. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W552-GD047C22N BETWEEN PLUG 241P4 AND GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE NO. 2 GENERATOR CONTACTOR 241K2.

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END OF TASK

9-2.12 NO. 1 AND NO. 2 RECT OFF CAPSULES ON (NO. 2 GENERATOR SELECTED)

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

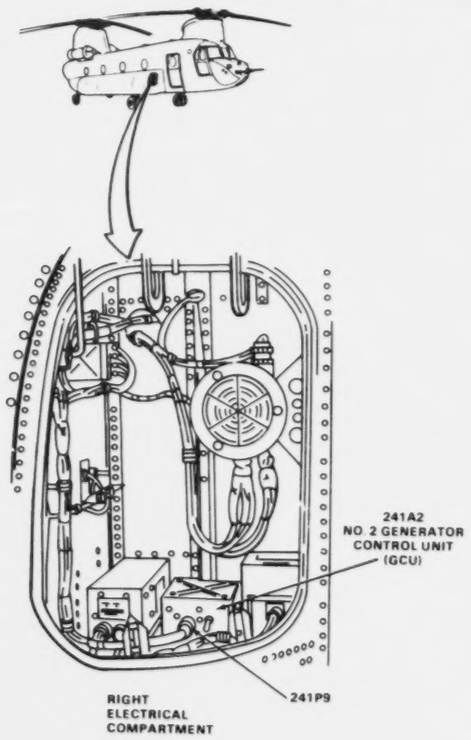
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



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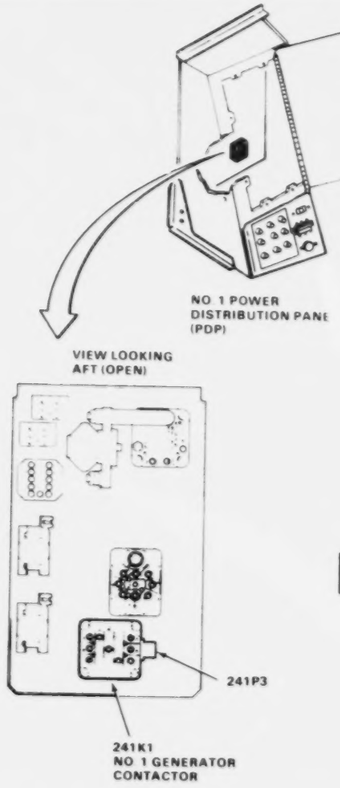

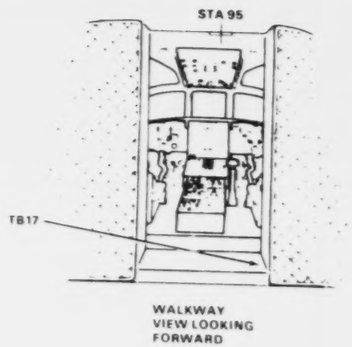

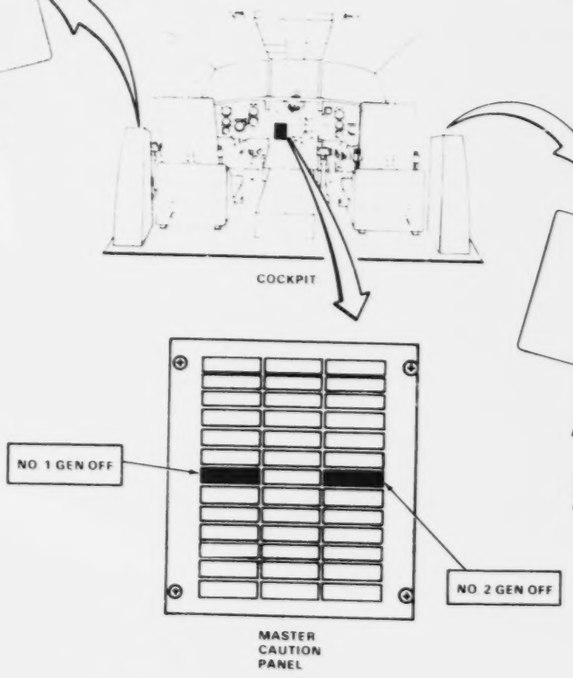

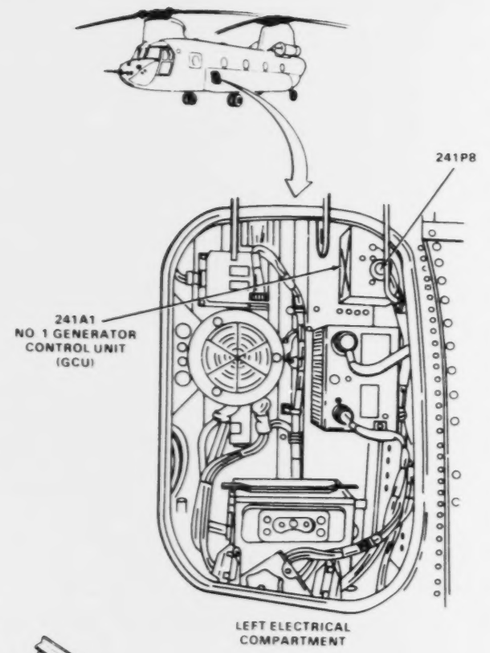

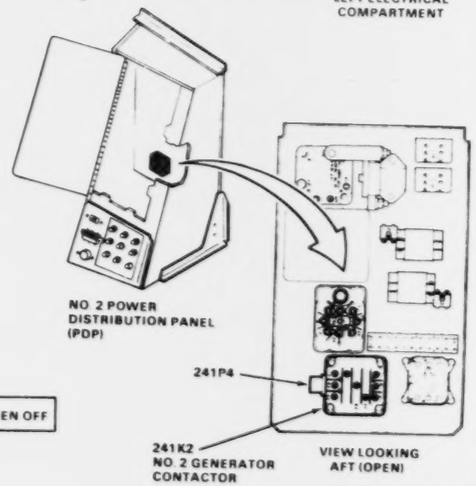

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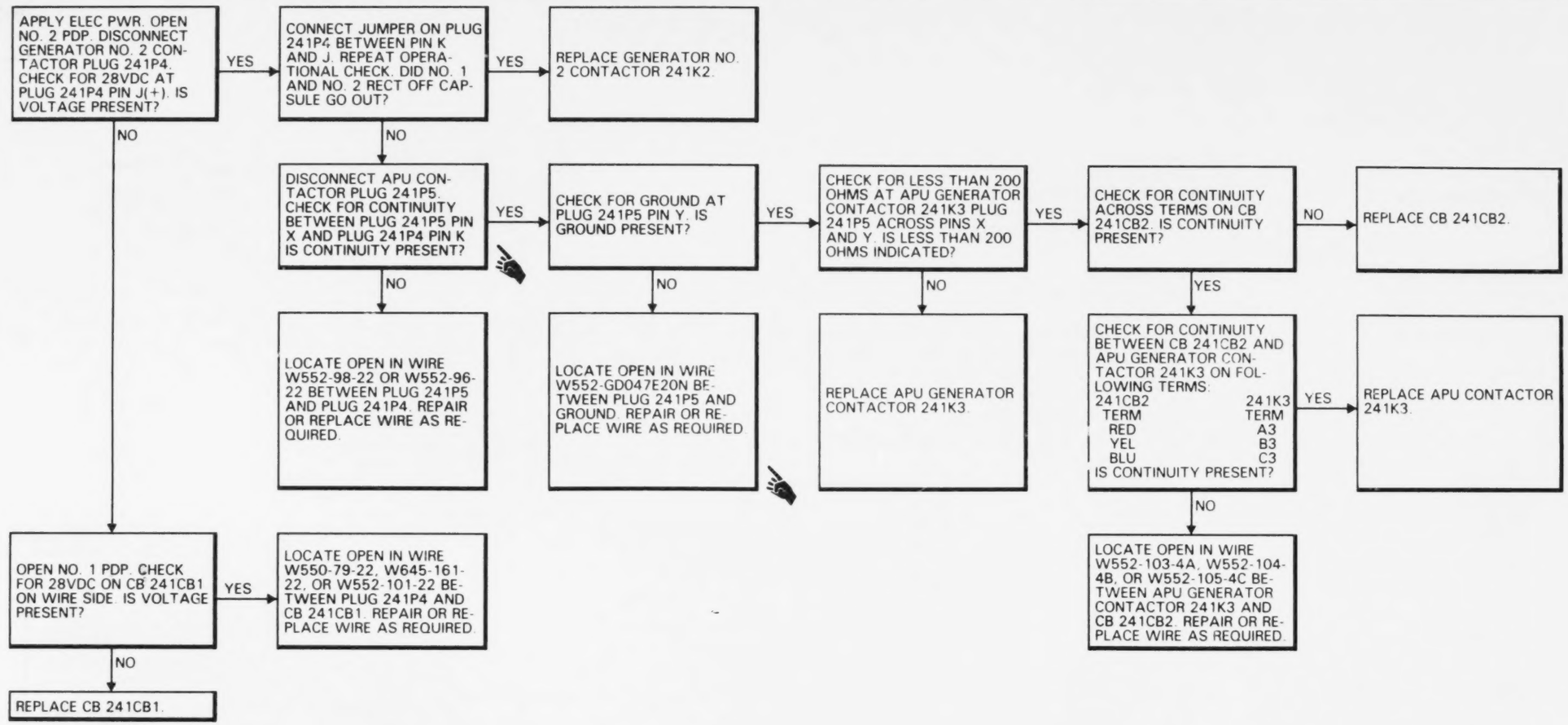

APPLY ELEC PWR. OPEN NO. 2 PDP. DISCONNECT GENERATOR NO. 2 CONTACTOR PLUG 241P4. CHECK FOR 28VDC AT PLUG 241P4 PIN J(+). IS VOLTAGE PRESENT?
YES
CONNECT JUMPER ON PLUG 241P4 BETWEEN PIN K AND J. REPEAT OPERATIONAL CHECK. DID NO. 1 AND NO. 2 RECT OFF CAPSULE GO OUT?
YES
REPLACE GENERATOR NO. 2 CONTACTOR 241K2.
NO
NO
DISCONNECT APU CONTACTOR PLUG 241P5. CHECK FOR CONTINUITY BETWEEN PLUG 241P5 PIN X AND PLUG 241P4 PIN K IS CONTINUITY PRESENT?
YES
CHECK FOR GROUND AT PLUG 241P5 PIN Y. IS GROUND PRESENT?
YES
CHECK FOR LESS THAN 200 OHMS AT APU GENERATOR CONTACTOR 241K3 PLUG 241P5 ACROSS PINS X AND Y. IS LESS THAN 200 OHMS INDICATED?
YES
CHECK FOR CONTINUITY ACROSS TERMS ON CB 241CB2. IS CONTINUITY PRESENT?
NO
REPLACE CB 241CB2.
NO
NO
NO
YES
LOCATE OPEN IN WIRE W552-98-22 OR W552-96-22 BETWEEN PLUG 241P5 AND PLUG 241P4. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE OPEN IN WIRE W552-GD047E20N BETWEEN PLUG 241P5 AND GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE APU GENERATOR CONTACTOR 241K3.
CHECK FOR CONTINUITY BETWEEN CB 241CB2 AND APU GENERATOR CONTACTOR 241K3 ON FOLLOWING TERMS:
241CB2 TERM — 241K3 TERM
RED — A3
YEL — B3
BLU — C3
IS CONTINUITY PRESENT?
YES
REPLACE APU CONTACTOR 241K3.
NO
LOCATE OPEN IN WIRE W552-103-4A, W552-104-4B, OR W552-105-4C BETWEEN APU GENERATOR CONTACTOR 241K3 AND CB 241CB2. REPAIR OR REPLACE WIRE AS REQUIRED.
OPEN NO. 1 PDP. CHECK FOR 28VDC ON CB 241CB1 ON WIRE SIDE. IS VOLTAGE PRESENT?
YES
LOCATE OPEN IN WIRE W550-79-22, W645-161-22, OR W552-101-22 BETWEEN PLUG 241P4 AND CB 241CB1. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE CB 241CB1.

END OF TASK

9-2.13 EXTERNAL POWER CAPSULE NOT ON (EXTERNAL POWER APPLIED)

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

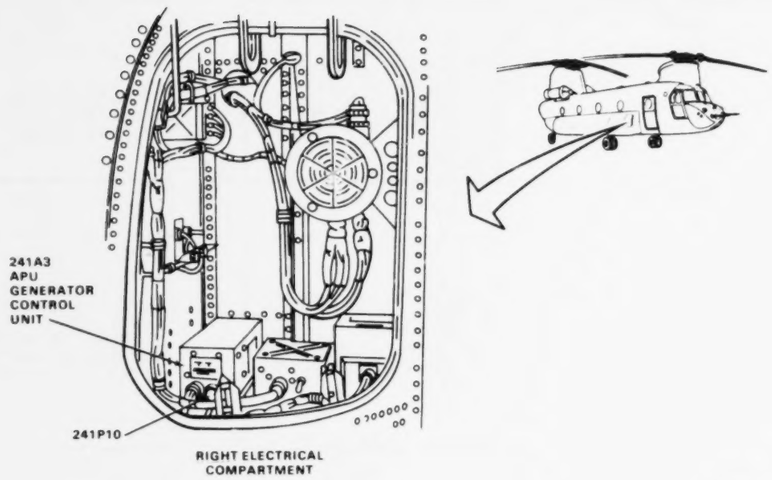
Tools:
Electrical Repairer's Tool Kit
NSN 5180-00-323-4915
Aircraft Mechanic's Tool Kit
NSN 5180-00-323-4692
Multimeter

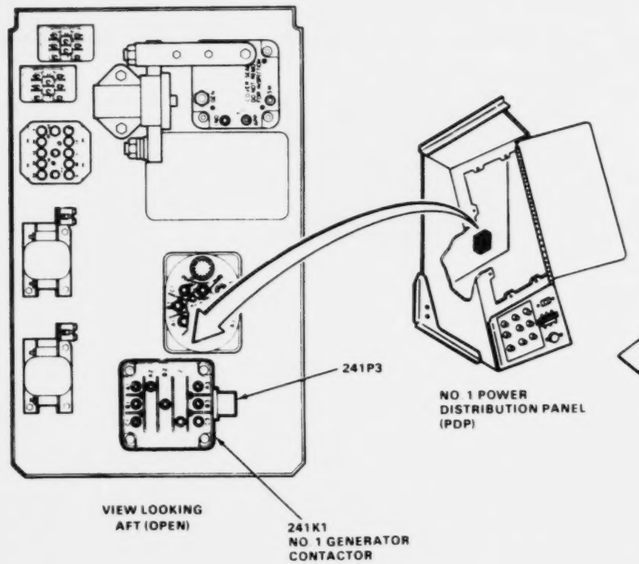
Materials:
None

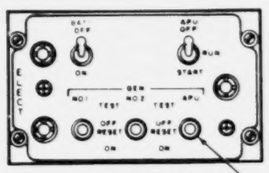
Personnel Required:
67U10 Medium Helicopter Repairer
68F20 Aircraft Electrician

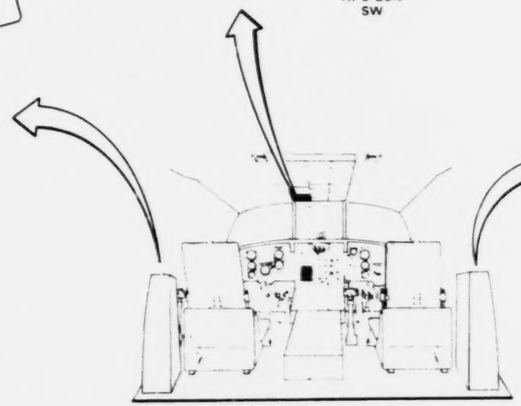
References:
TM 55-1520-240-23

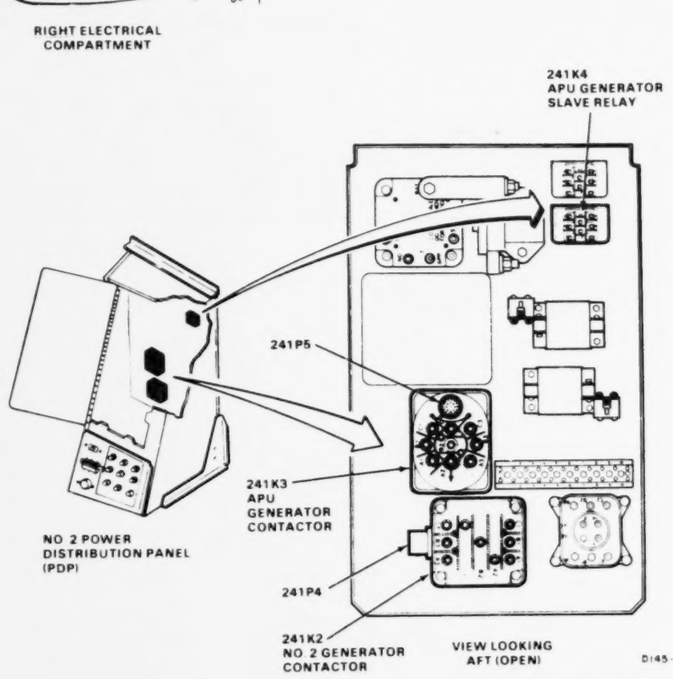
Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power On











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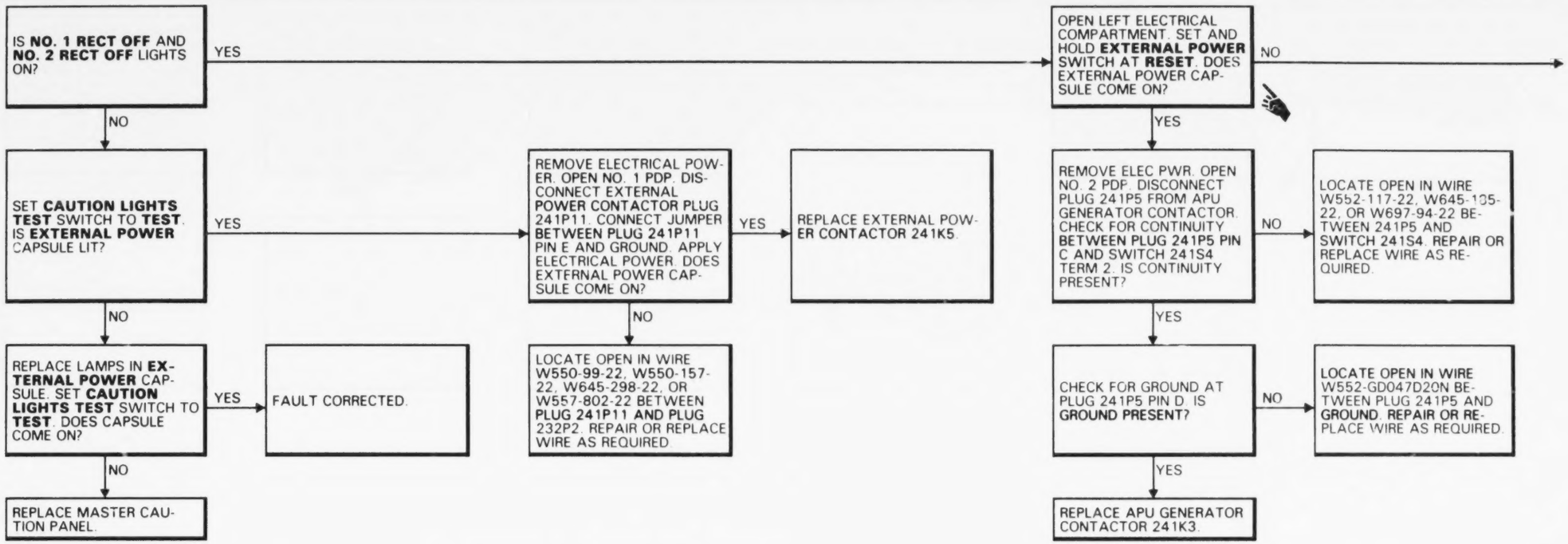
IS NO. 1 RECT OFF AND NO. 2 RECT OFF LIGHTS ON?
YES
NO
OPEN LEFT ELECTRICAL COMPARTMENT. SET AND HOLD EXTERNAL POWER SWITCH AT RESET. DOES EXTERNAL POWER CAPSULE COME ON?
NO
YES
SET CAUTION LIGHTS TEST SWITCH TO TEST. IS EXTERNAL POWER CAPSULE LIT?
YES
NO
REMOVE ELECTRICAL POWER. OPEN NO. 1 PDP. DISCONNECT EXTERNAL POWER CONTACTOR PLUG 241P11. CONNECT JUMPER BETWEEN PLUG 241P11 PIN E AND GROUND. APPLY ELECTRICAL POWER. DOES EXTERNAL POWER CAPSULE COME ON?
YES
REPLACE EXTERNAL POWER CONTACTOR 241K5.
NO
LOCATE OPEN IN WIRE W550-99-22, W550-157-22, W645-298-22, OR W557-802-22 BETWEEN PLUG 241P11 AND PLUG 232P2. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELEC PWR. OPEN NO. 2 PDP. DISCONNECT PLUG 241P5 FROM APU GENERATOR CONTACTOR. CHECK FOR CONTINUITY BETWEEN PLUG 241P5 PIN C AND SWITCH 241S4 TERM 2. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W552-117-22, W645-105-22, OR W697-94-22 BETWEEN 241P5 AND SWITCH 241S4. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE LAMPS IN EXTERNAL POWER CAPSULE. SET CAUTION LIGHTS TEST SWITCH TO TEST. DOES CAPSULE COME ON?
YES
FAULT CORRECTED.
NO
CHECK FOR GROUND AT PLUG 241P5 PIN D. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W552-GD047D20N BETWEEN PLUG 241P5 AND GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE MASTER CAUTION PANEL.
REPLACE APU GENERATOR CONTACTOR 241K3.

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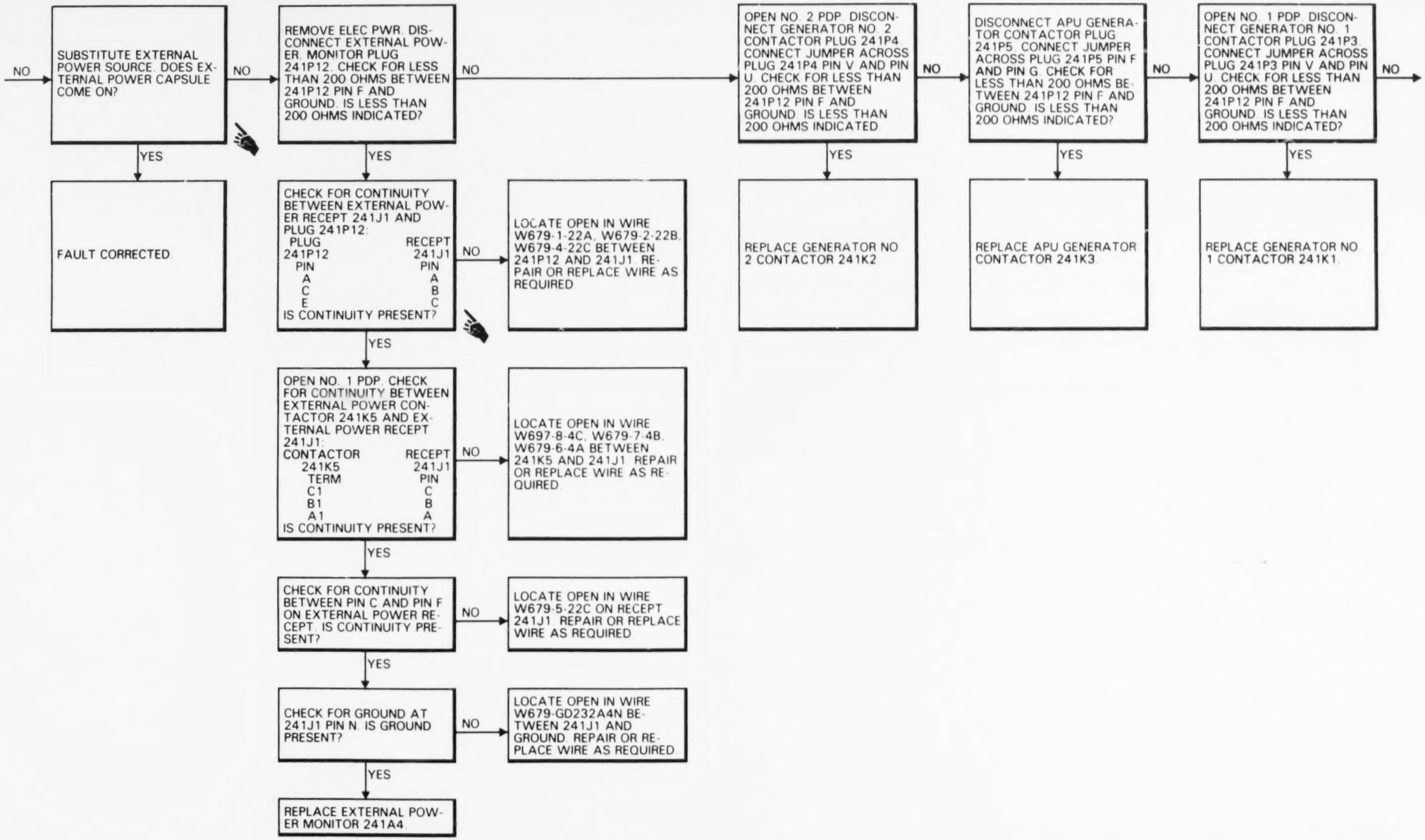
9-2.13 EXTERNAL POWER CAPSULE NOT ON (EXTERNAL POWER APPLIED) (Continued) 9-2.13


NO
SUBSTITUTE EXTERNAL POWER SOURCE. DOES EXTERNAL POWER CAPSULE COME ON?
NO
REMOVE ELEC PWR DISCONNECT EXTERNAL POWER MONITOR PLUG 241P12. CHECK FOR LESS THAN 200 OHMS BETWEEN 241P12 PIN F AND GROUND. IS LESS THAN 200 OHMS INDICATED?
NO
OPEN NO. 2 PDP. DISCONNECT GENERATOR NO. 2 CONTACTOR PLUG 241P4. CONNECT JUMPER ACROSS PLUG 241P4 PIN V AND PIN U. CHECK FOR LESS THAN 200 OHMS BETWEEN 241P12 PIN F AND GROUND. IS LESS THAN 200 OHMS INDICATED.
NO
DISCONNECT APU GENERATOR CONTACTOR PLUG 241P5. CONNECT JUMPER ACROSS PLUG 241P5 PIN F AND PIN G. CHECK FOR LESS THAN 200 OHMS BETWEEN 241P12 PIN F AND GROUND. IS LESS THAN 200 OHMS INDICATED?
NO
OPEN NO. 1 PDP. DISCONNECT GENERATOR NO. 1 CONTACTOR PLUG 241P3. CONNECT JUMPER ACROSS PLUG 241P3 PIN V AND PIN U. CHECK FOR LESS THAN 200 OHMS BETWEEN 241P12 PIN F AND GROUND. IS LESS THAN 200 OHMS INDICATED?
NO
YES
FAULT CORRECTED.
YES
CHECK FOR CONTINUITY BETWEEN EXTERNAL POWER RECEPT 241J1 AND PLUG 241P12:
PLUG 241P12 PIN: A, C, E
RECEPT 241J1 PIN: A, B, C
IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W679-1-22A, W679-2-22B, W679-4-22C BETWEEN 241P12 AND 241J1. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE GENERATOR NO. 2 CONTACTOR 241K2.
YES
REPLACE APU GENERATOR CONTACTOR 241K3.
YES
REPLACE GENERATOR NO. 1 CONTACTOR 241K1.
YES
OPEN NO. 1 PDP. CHECK FOR CONTINUITY BETWEEN EXTERNAL POWER CONTACTOR 241K5 AND EXTERNAL POWER RECEPT 241J1:
CONTACTOR 241K5 TERM: C1, B1, A1
RECEPT 241J1 PIN: C, B, A
IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W697-8-4C, W679-7-4B, W679-6-4A BETWEEN 241K5 AND 241J1. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR CONTINUITY BETWEEN PIN C AND PIN F ON EXTERNAL POWER RECEPT. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W679-5-22C ON RECEPT 241J1. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR GROUND AT 241J1 PIN N. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W679-GD232A4N BETWEEN 241J1 AND GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE EXTERNAL POWER MONITOR 241A4.

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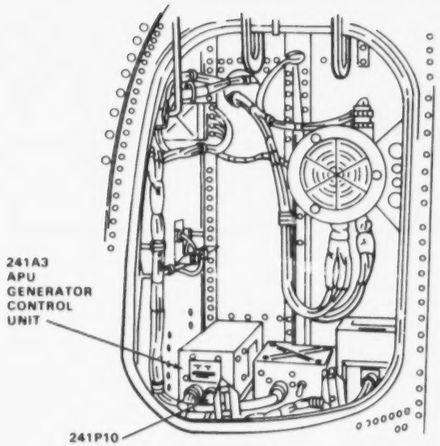
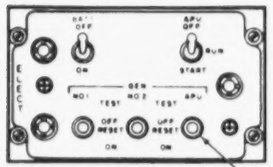
9-2.13 EXTERNAL POWER CAPSULE NOT ON (EXTERNAL POWER APPLIED) (Continued)

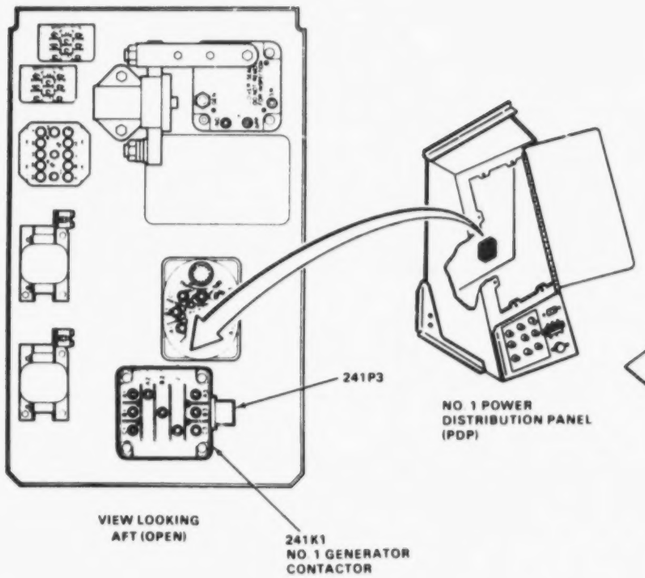


RIGHT ELECTRICAL COMPARTMENT



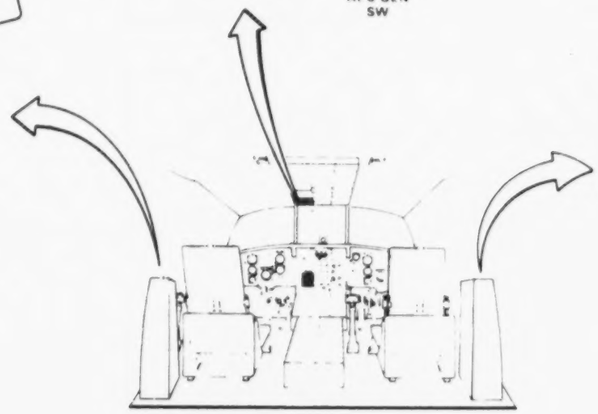
ELECT PANEL

APU GEN SW

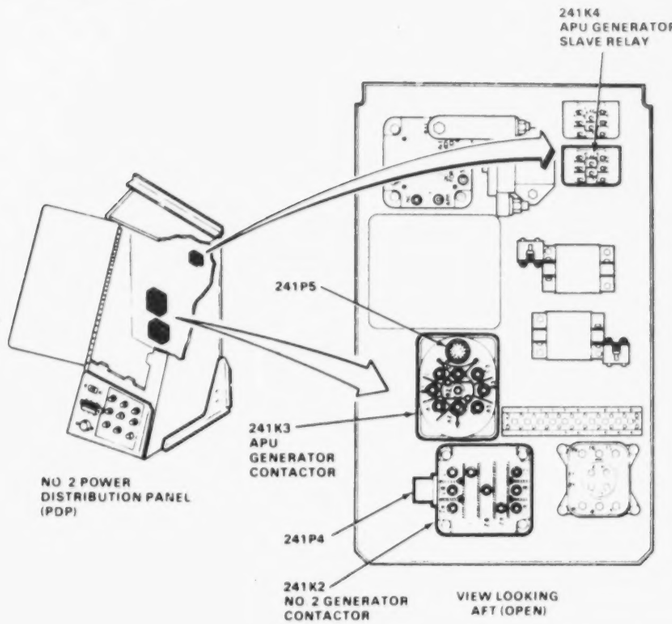


VIEW LOOKING AFT (OPEN)

NO. 1 POWER DISTRIBUTION PANEL (PDP)



COCKPIT



NO. 2 POWER DISTRIBUTION PANEL (PDP)

VIEW LOOKING AFT (OPEN)

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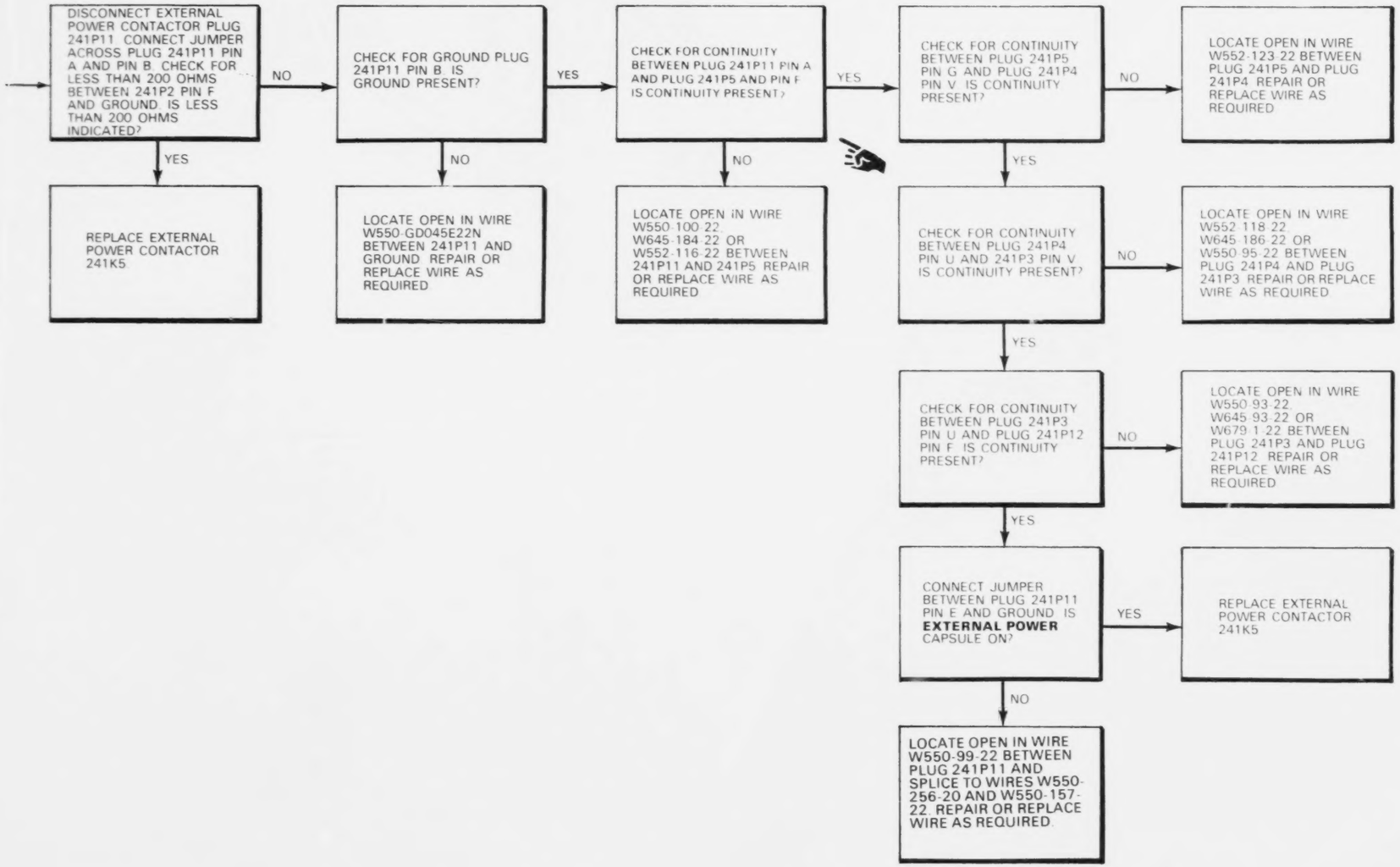
9-2.13 EXTERNAL POWER CAPSULE NOT ON (EXTERNAL POWER APPLIED) (Continued)


DISCONNECT EXTERNAL POWER CONTACTOR PLUG 241P11. CONNECT JUMPER ACROSS PLUG 241P11 PIN A AND PIN B. CHECK FOR LESS THAN 200 OHMS BETWEEN 241P2 PIN F AND GROUND. IS LESS THAN 200 OHMS INDICATED?
NO
YES
REPLACE EXTERNAL POWER CONTACTOR 241K5
CHECK FOR GROUND PLUG 241P11 PIN B. IS GROUND PRESENT?
YES
NO
LOCATE OPEN IN WIRE W550-GD045E22N BETWEEN 241P11 AND GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR CONTINUITY BETWEEN PLUG 241P11 PIN A AND PLUG 241P5 AND PIN F IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W550-100-22, W645-184-22 OR W552-116-22 BETWEEN 241P11 AND 241P5. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR CONTINUITY BETWEEN PLUG 241P5 PIN G AND PLUG 241P4 PIN V. IS CONTINUITY PRESENT?
NO
YES
LOCATE OPEN IN WIRE W552-123-22 BETWEEN PLUG 241P5 AND PLUG 241P4. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR CONTINUITY BETWEEN PLUG 241P4 PIN U AND 241P3 PIN V. IS CONTINUITY PRESENT?
NO
YES
LOCATE OPEN IN WIRE W552-118-22, W645-186-22 OR W550-95-22 BETWEEN PLUG 241P4 AND PLUG 241P3. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR CONTINUITY BETWEEN PLUG 241P3 PIN U AND PLUG 241P12 PIN F. IS CONTINUITY PRESENT?
NO
YES
LOCATE OPEN IN WIRE W550-93-22, W645-93-22 OR W679-1-22 BETWEEN PLUG 241P3 AND PLUG 241P12. REPAIR OR REPLACE WIRE AS REQUIRED
CONNECT JUMPER BETWEEN PLUG 241P11 PIN E AND GROUND. IS **EXTERNAL POWER** CAPSULE ON?
YES
NO
REPLACE EXTERNAL POWER CONTACTOR 241K5
LOCATE OPEN IN WIRE W550-99-22 BETWEEN PLUG 241P11 AND SPLICE TO WIRES W550-256-20 AND W550-157-22. REPAIR OR REPLACE WIRE AS REQUIRED.

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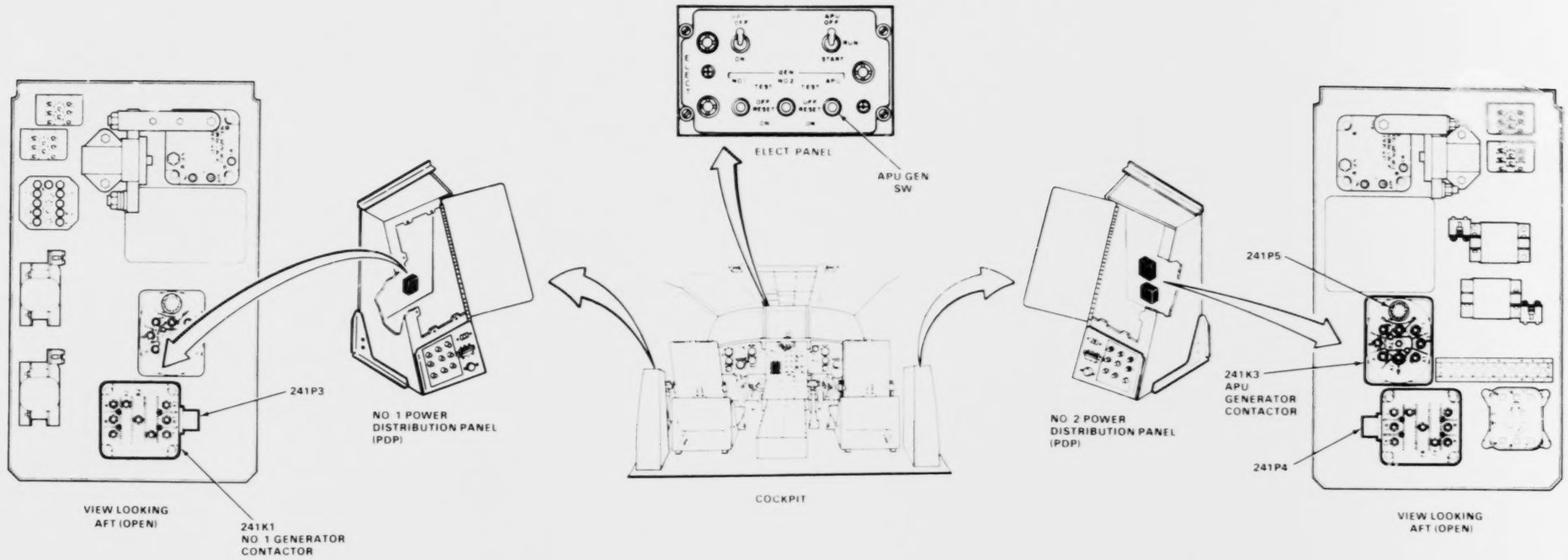
9-2.13 EXTERNAL POWER CAPSULE NOT ON (EXTERNAL POWER APPLIED) (Continued)



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END OF TASK

9-2.14 NO. 1 AND NO. 2 RECT OFF CAPSULES ON (EXTERNAL POWER ON) 9-2.14

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

OPEN NO. 1 PDP. CHECK CONTINUITY BETWEEN EXTERNAL POWER RECEPT 241J1 AND EXTERNAL POWER CONTACTOR 241K5:

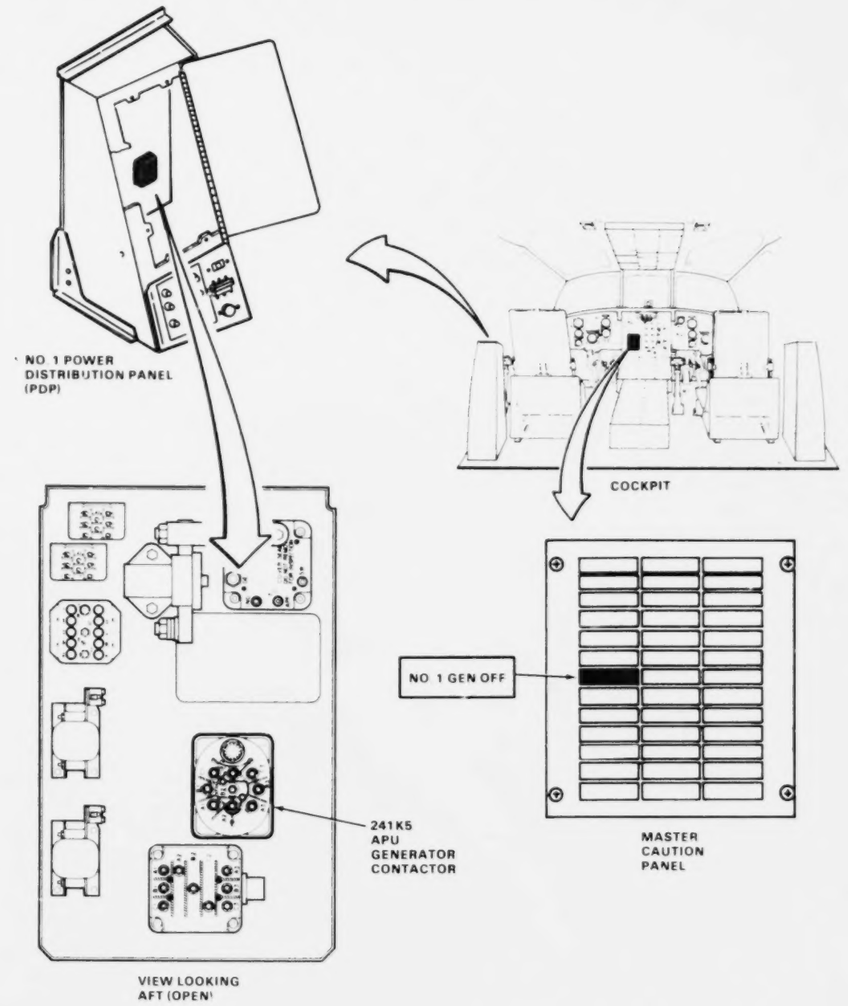
241J1 PIN	241K5 TERM
A	A1
B	B1
C	C1

IS CONTINUITY PRESENT?

NO → LOCATE OPEN IN WIRE W679-8-4C, W697-7-4B, OR W697-6-4A BETWEEN 241J1 AND 241K5 TERMS. REPAIR OR REPLACE WIRE AS REQUIRED.

YES ↓

REPLACE EXTERNAL POWER CONTACTOR 241K5.



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END OF TASK

9-2.15 NO. 1 OR NO. 2 RECT OFF CAPSULE ON WHEN GEN NO. 1 OR NO. 2 SWITCH TURNED OFF 9-2.15

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

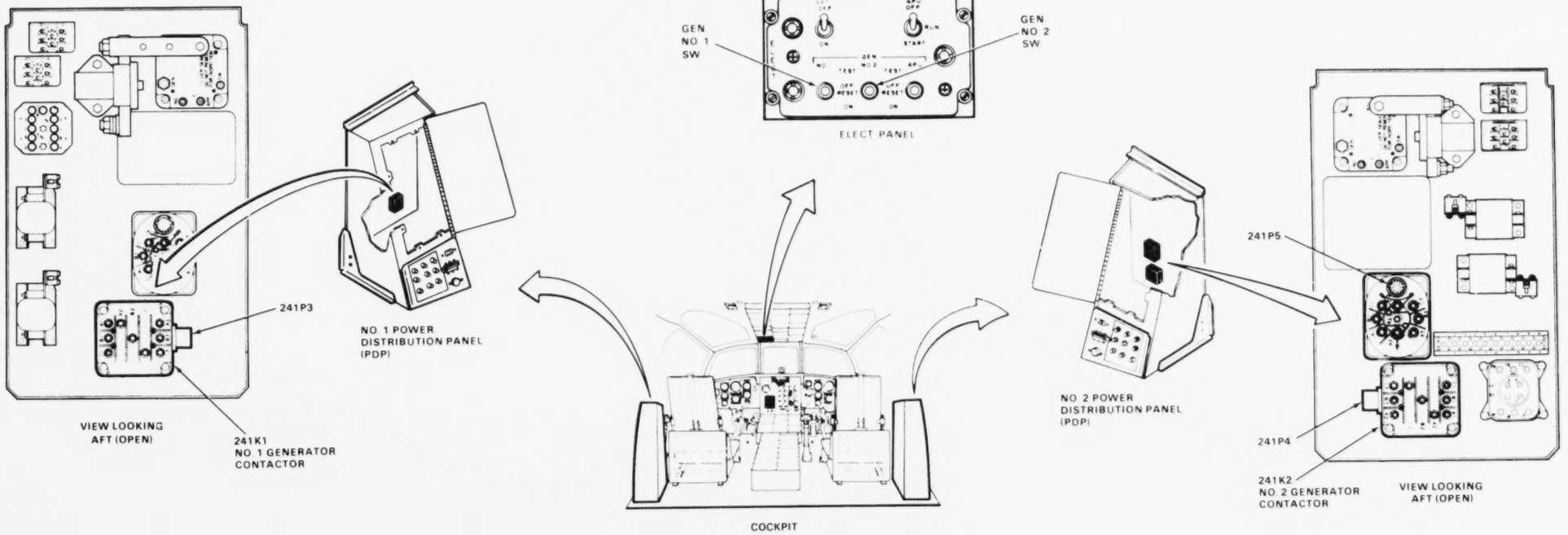
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240 23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power On
Hydraulic Power Off



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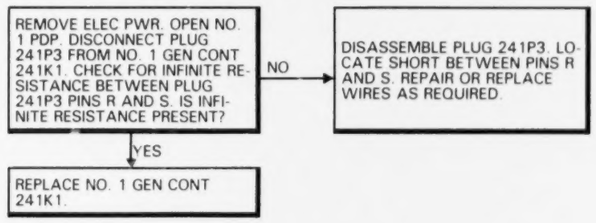
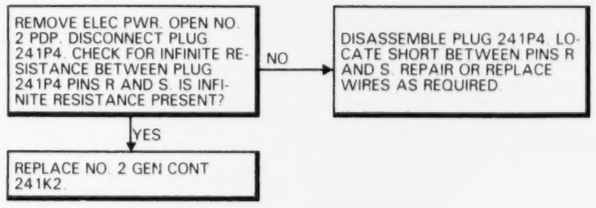
NO. 1 RECT OFF CAPSULE ON

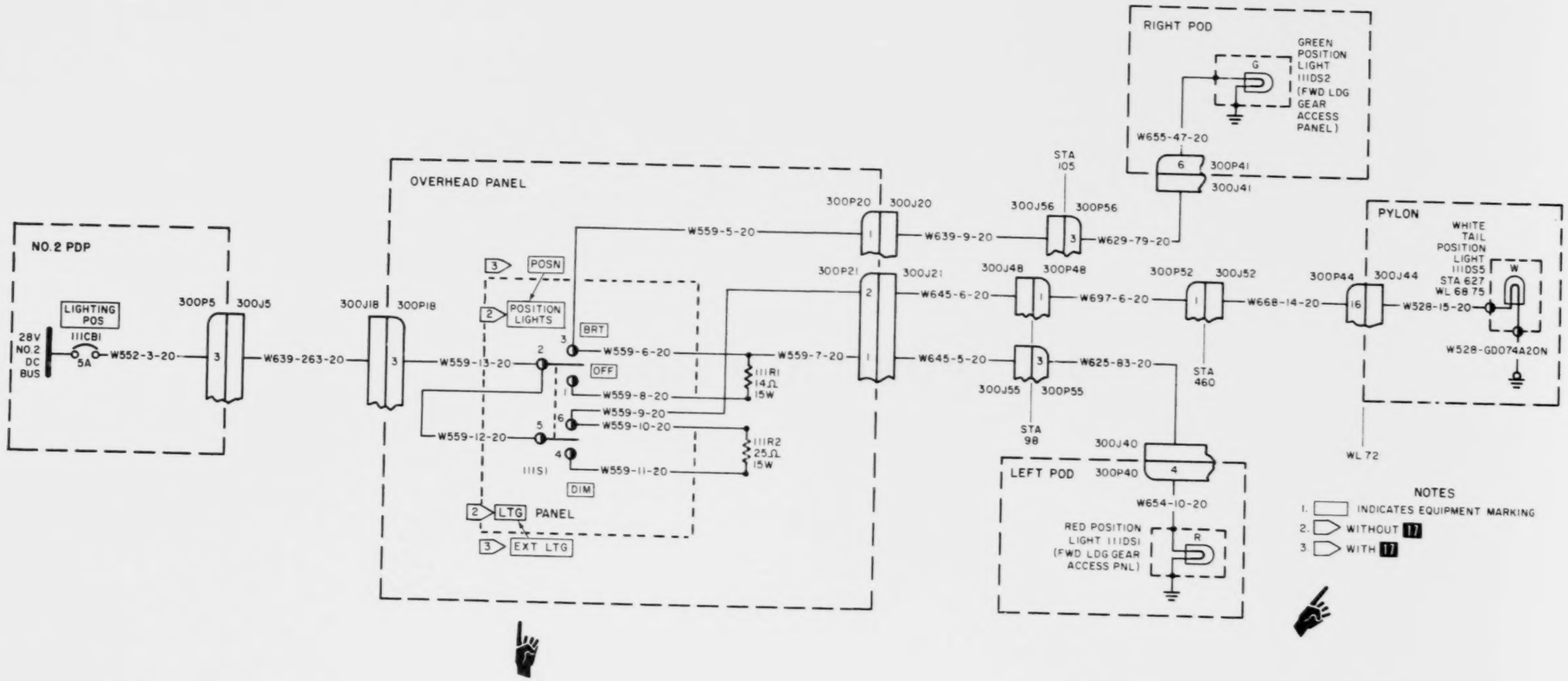

REMOVE ELEC PWR. OPEN NO. 1 PDP. DISCONNECT PLUG 241P3 FROM NO. 1 GEN CONT 241K1. CHECK FOR INFINITE RESISTANCE BETWEEN PLUG 241P3 PINS R AND S. IS INFINITE RESISTANCE PRESENT?
NO
DISASSEMBLE PLUG 241P3. LOCATE SHORT BETWEEN PINS R AND S. REPAIR OR REPLACE WIRES AS REQUIRED.
YES
REPLACE NO. 1 GEN CONT 241K1.

NO. 2 RECT OFF CAPSULE ON


REMOVE ELEC PWR. OPEN NO. 2 PDP. DISCONNECT PLUG 241P4. CHECK FOR INFINITE RESISTANCE BETWEEN PLUG 241P4 PINS R AND S. IS INFINITE RESISTANCE PRESENT?
NO
DISASSEMBLE PLUG 241P4. LOCATE SHORT BETWEEN PINS R AND S. REPAIR OR REPLACE WIRES AS REQUIRED.
YES
REPLACE NO. 2 GEN CONT 241K2.

END OF TASK

9-3 POSITION LIGHTS


NO.2 PDP
28V NO.2 DC BUS
LIGHTING POS
111CB1
5A
W552-3-20
300P5
300J5
W639-263-20
OVERHEAD PANEL
300J18
300P18
W559-13-20
POSN
POSITION LIGHTS
BRT
OFF
DIM
W559-6-20
W559-7-20
W559-8-20
W559-9-20
W559-10-20
W559-11-20
W559-12-20
111R1 14Ω 15W
111R2 25Ω 15W
111S1
2 LTG PANEL
3 EXT LTG
300P20
300J20
W559-5-20
W639-9-20
300P21
300J21
W645-6-20
W645-5-20
STA 105
300J56
300P56
W629-79-20
RIGHT POD
GREEN POSITION LIGHT 111DS2 (FWD LDG GEAR ACCESS PANEL)
W655-47-20
300P41
300J41
300J48
300P48
W697-6-20
300P52
300J52
W668-14-20
300J55
300P55
W625-83-20
STA 460
STA 98
300J40
LEFT POD
300P40
W654-10-20
RED POSITION LIGHT 111DS1 (FWD LDG GEAR ACCESS PNL)
PYLON
300P44
300J44
W528-15-20
WHITE TAIL POSITION LIGHT 111DS5 STA 627 WL 68 75
W528-GD074A20N
WL 72
NOTES
1. INDICATES EQUIPMENT MARKING
2. WITHOUT 17
3. WITH 17
10274

9-3.2 POSITION LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

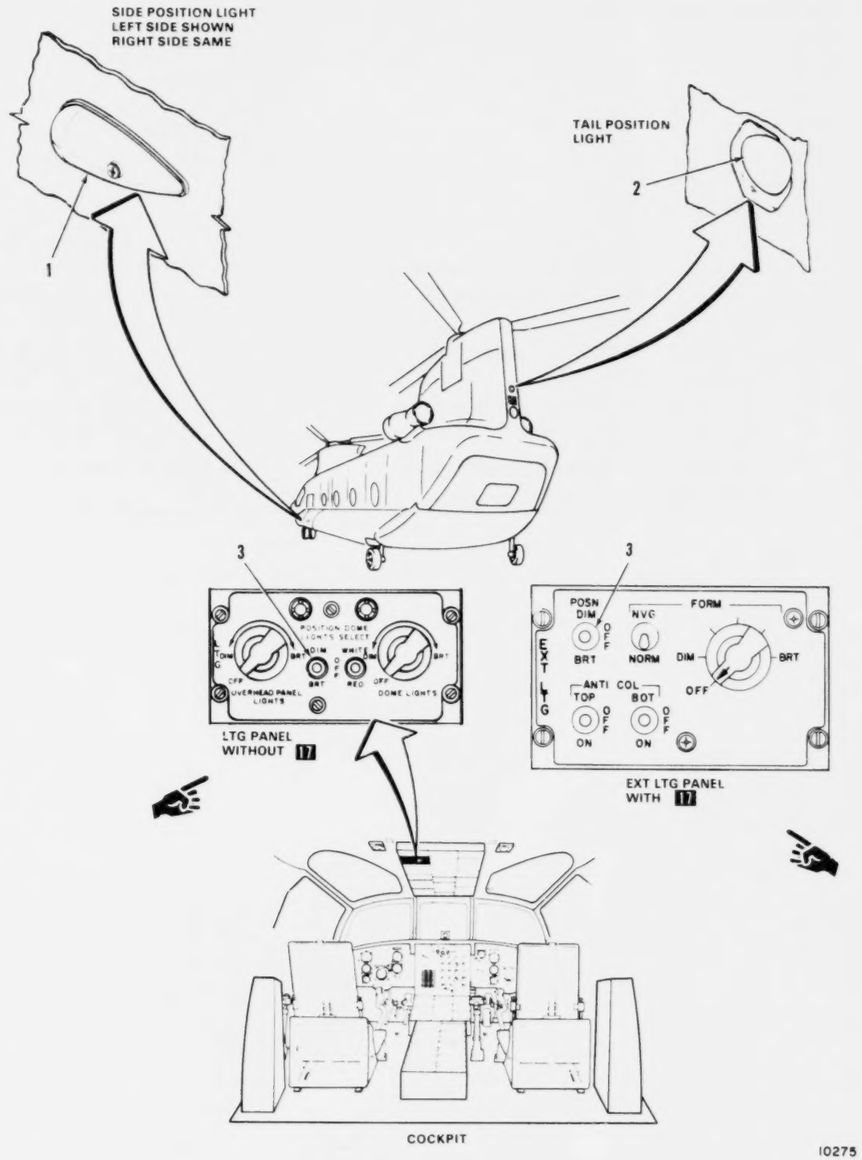
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check left side position light (1).**	If light (1) is loose or damaged, tighten or replace it as required.
2. **Repeat step 1 for right side position light.**	
3. **Check tail position light (2).**	If light (2) is loose or damaged, tighten or replace it as required.
4. **Check POSITION LIGHTS or POSN switch (3) on LTG panel.**	If switch (3) is loose or damaged, tighten or replace it as required.

FOLLOW-ON MAINTENANCE:
None



END OF TASK

9-3.3 POSITION LIGHTS OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
None

Materials:
None

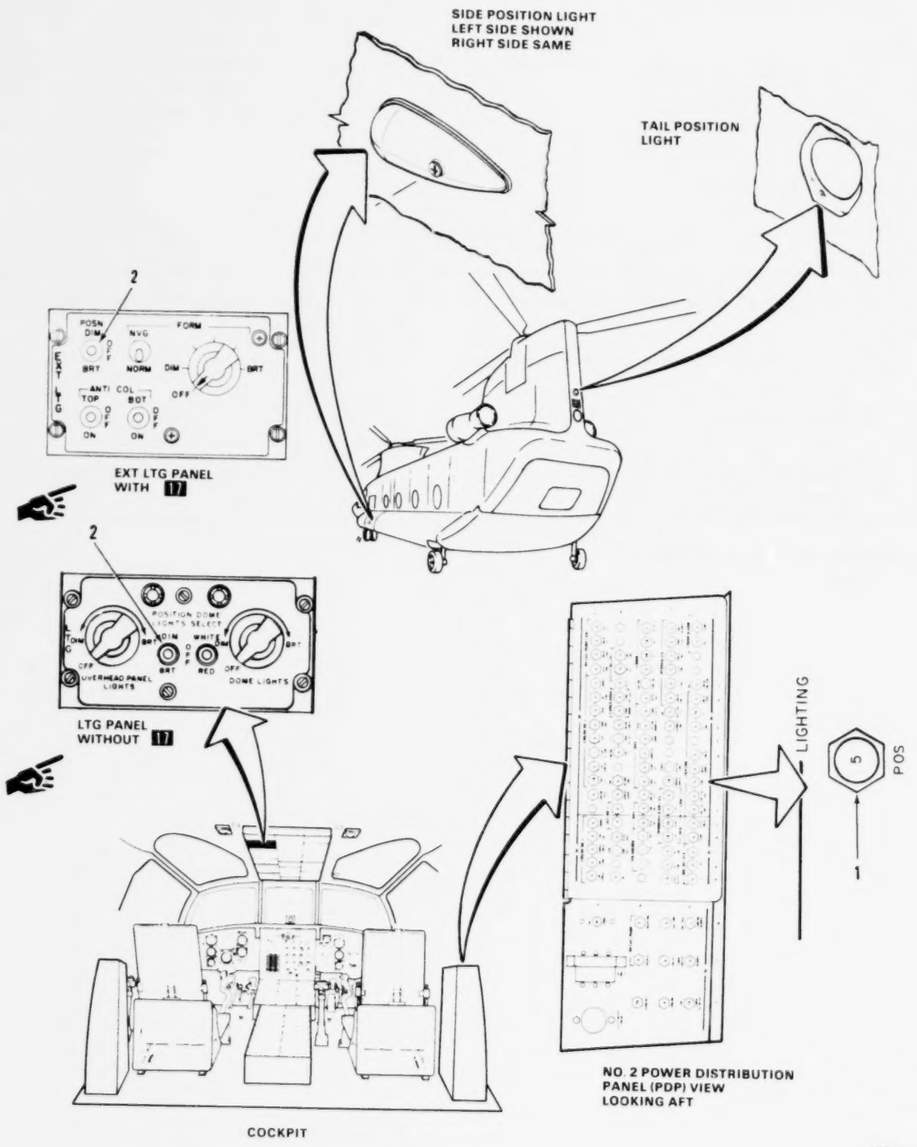
Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Visual Check of Position Lights Performed (Task 9-3.2)

TASK	RESULT
1. **Check** that **LIGHTING POS circuit breaker (1)** is closed.	If **POS** circuit breaker (1) is opened, close it. If it opens again, go to task 9-3.4.
2. **Set POSITION LIGHTS switch or POSN switch (2) to BRT.**	Left, right, and tail position lights come on at full intensity. If any light is not lit, go to task 9-3.5.
3. **Set POSITION LIGHTS switch or POSN switch (2) to DIM.**	Left, right, and tail position lights shall be at low intensity. If any light is not lit, go to task 9-3.6.
4. **Set POSITION LIGHTS switch or POSN switch (2) to OFF.**	All position lights shall go out.

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off



END OF TASK

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

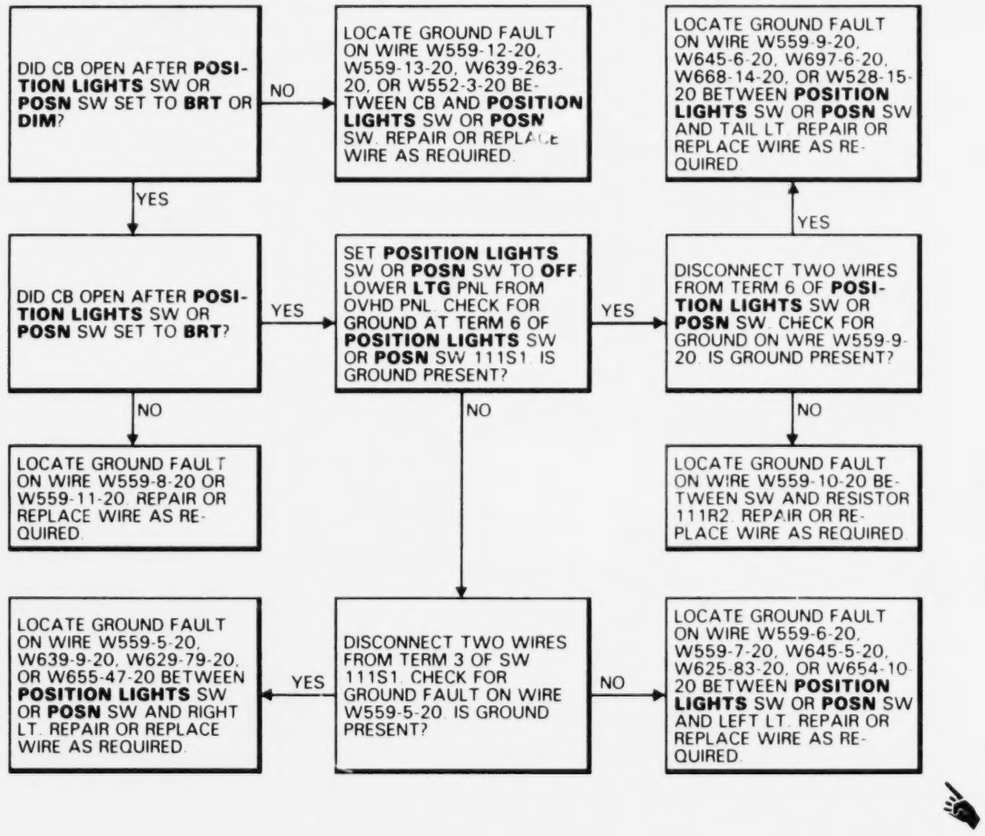
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

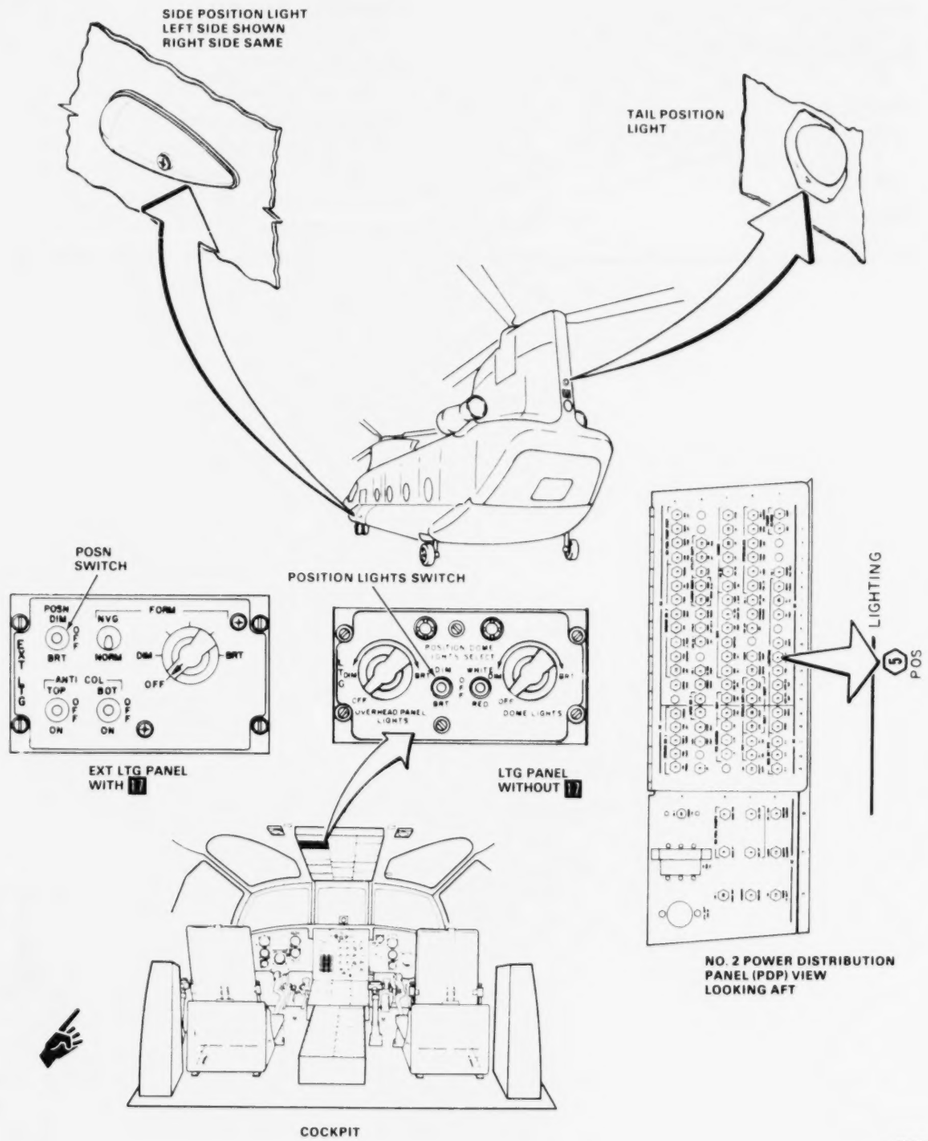
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off


DID CB OPEN AFTER POSITION LIGHTS SW OR POSN SW SET TO BRT OR DIM?
NO
LOCATE GROUND FAULT ON WIRE W559-12-20, W559-13-20, W639-263-20, OR W552-3-20 BETWEEN CB AND POSITION LIGHTS SW OR POSN SW. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE GROUND FAULT ON WIRE W559-9-20, W645-6-20, W697-6-20, W668-14-20, OR W528-15-20 BETWEEN POSITION LIGHTS SW OR POSN SW AND TAIL LT. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
DID CB OPEN AFTER POSITION LIGHTS SW OR POSN SW SET TO BRT?
YES
SET POSITION LIGHTS SW OR POSN SW TO OFF. LOWER LTG PNL FROM OVHD PNL. CHECK FOR GROUND AT TERM 6 OF POSITION LIGHTS SW OR POSN SW 111S1. IS GROUND PRESENT?
YES
DISCONNECT TWO WIRES FROM TERM 6 OF POSITION LIGHTS SW OR POSN SW. CHECK FOR GROUND ON WRE W559-9-20. IS GROUND PRESENT?
NO
LOCATE GROUND FAULT ON WIRE W559-8-20 OR W559-11-20. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE GROUND FAULT ON WIRE W559-10-20 BETWEEN SW AND RESISTOR 111R2. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE GROUND FAULT ON WIRE W559-5-20, W639-9-20, W629-79-20, OR W655-47-20 BETWEEN POSITION LIGHTS SW OR POSN SW AND RIGHT LT. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
DISCONNECT TWO WIRES FROM TERM 3 OF SW 111S1. CHECK FOR GROUND FAULT ON WIRE W559-5-20. IS GROUND PRESENT?
NO
LOCATE GROUND FAULT ON WIRE W559-6-20, W559-7-20, W645-5-20, W625-83-20, OR W654-10-20 BETWEEN POSITION LIGHTS SW OR POSN SW AND LEFT LT. REPAIR OR REPLACE WIRE AS REQUIRED.



10317

END OF TASK

9-3.5 POSITION LIGHT OR LIGHTS NOT LIT AT BRT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

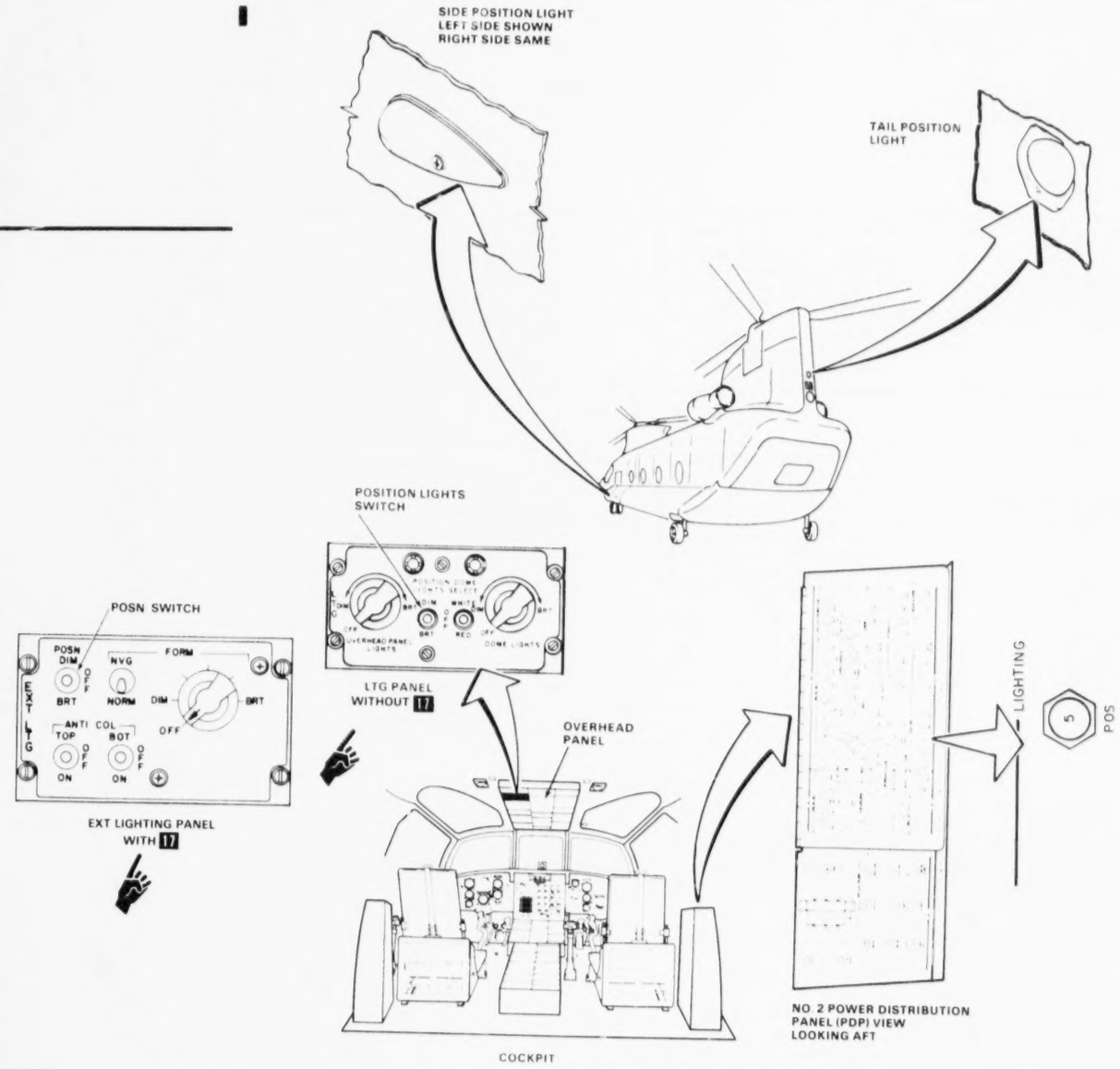
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

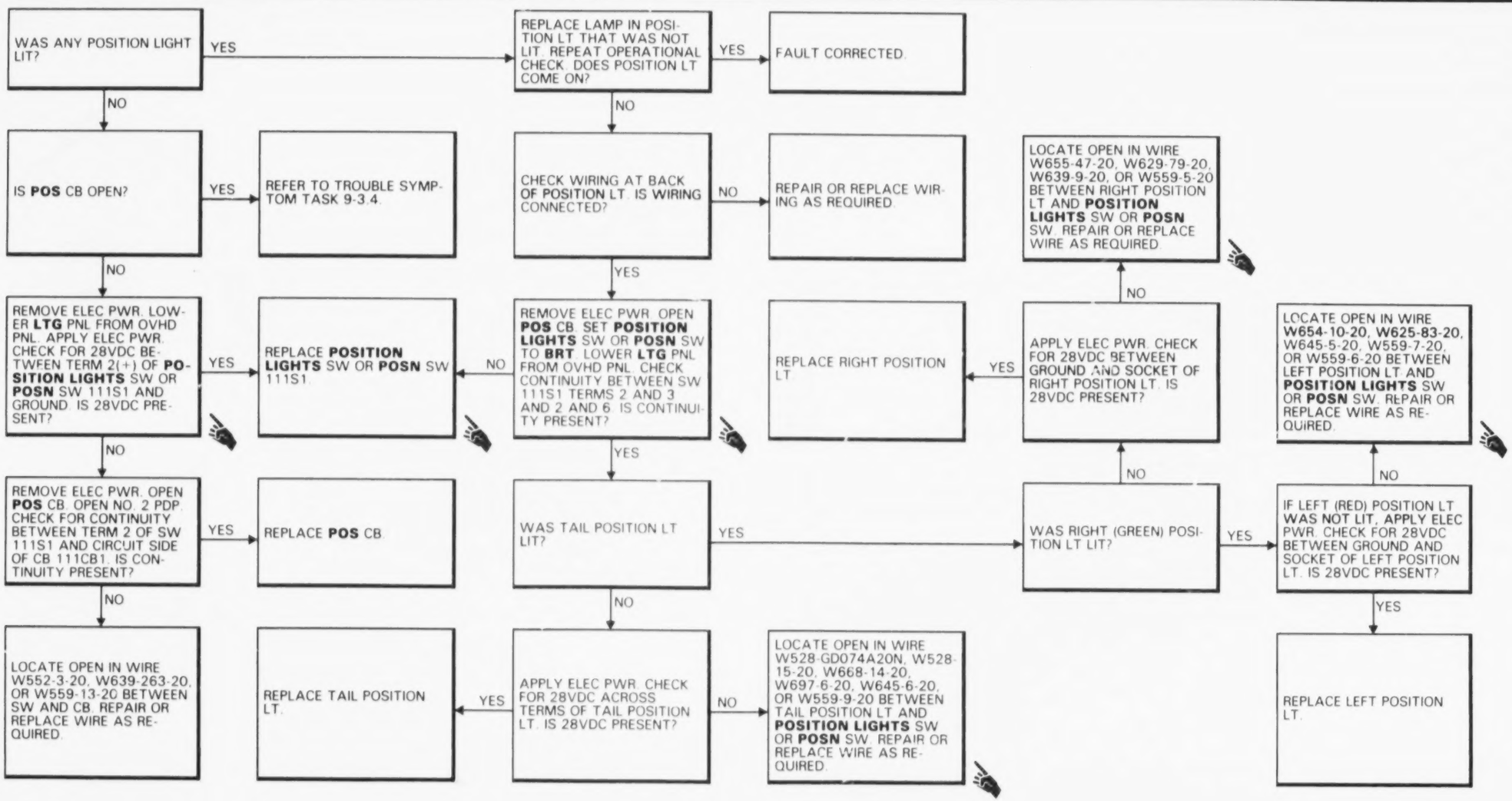
Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



10318

GO TO NEXT PAGE

9-3.5 POSITION LIGHT OR LIGHTS NOT LIT AT BRT (Continued)


WAS ANY POSITION LIGHT LIT?
YES
REPLACE LAMP IN POSITION LT THAT WAS NOT LIT. REPEAT OPERATIONAL CHECK. DOES POSITION LT COME ON?
YES
FAULT CORRECTED.
NO
NO
IS **POS** CB OPEN?
YES
REFER TO TROUBLE SYMPTOM TASK 9-3.4.
CHECK WIRING AT BACK OF POSITION LT. IS WIRING CONNECTED?
NO
REPAIR OR REPLACE WIRING AS REQUIRED.
LOCATE OPEN IN WIRE W655-47-20, W629-79-20, W639-9-20, OR W559-5-20 BETWEEN RIGHT POSITION LT AND **POSITION LIGHTS** SW OR **POSN** SW. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
YES
YES
REMOVE ELEC PWR. LOWER **LTG** PNL FROM OVHD PNL. APPLY ELEC PWR. CHECK FOR 28VDC BETWEEN TERM 2(+) OF **POSITION LIGHTS** SW OR **POSN** SW 111S1 AND GROUND. IS 28VDC PRESENT?
YES
REPLACE **POSITION LIGHTS** SW OR **POSN** SW 111S1.
NO
REMOVE ELEC PWR. OPEN **POS** CB. SET **POSITION LIGHTS** SW OR **POSN** SW TO **BRT**. LOWER **LTG** PNL FROM OVHD PNL. CHECK CONTINUITY BETWEEN SW 111S1 TERMS 2 AND 3 AND 2 AND 6. IS CONTINUITY PRESENT?
REPLACE RIGHT POSITION LT.
YES
APPLY ELEC PWR. CHECK FOR 28VDC BETWEEN GROUND AND SOCKET OF RIGHT POSITION LT. IS 28VDC PRESENT?
LOCATE OPEN IN WIRE W654-10-20, W625-83-20, W645-5-20, W559-7-20, OR W559-6-20 BETWEEN LEFT POSITION LT AND **POSITION LIGHTS** SW OR **POSN** SW. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
NO
NO
REMOVE ELEC PWR. OPEN **POS** CB. OPEN NO. 2 PDP. CHECK FOR CONTINUITY BETWEEN TERM 2 OF SW 111S1 AND CIRCUIT SIDE OF CB 111CB1. IS CONTINUITY PRESENT?
YES
REPLACE **POS** CB.
WAS TAIL POSITION LT LIT?
YES
WAS RIGHT (GREEN) POSITION LT LIT?
YES
IF LEFT (RED) POSITION LT **WAS NOT LIT**, APPLY ELEC PWR. CHECK FOR 28VDC BETWEEN GROUND AND SOCKET OF LEFT POSITION LT. IS 28VDC PRESENT?
NO
NO
YES
LOCATE OPEN IN WIRE W552-3-20, W639-263-20, OR W559-13-20 BETWEEN SW AND CB. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE TAIL POSITION LT.
YES
APPLY ELEC PWR. CHECK FOR 28VDC ACROSS TERMS OF TAIL POSITION LT. IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W528-GD074A20N, W528-15-20, W668-14-20, W697-6-20, W645-6-20, OR W559-9-20 BETWEEN TAIL POSITION LT AND **POSITION LIGHTS** SW OR **POSN** SW. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE LEFT POSITION LT.

END OF TASK

9-3.6 POSITION LIGHT OR LIGHTS NOT LIT AT DIM

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

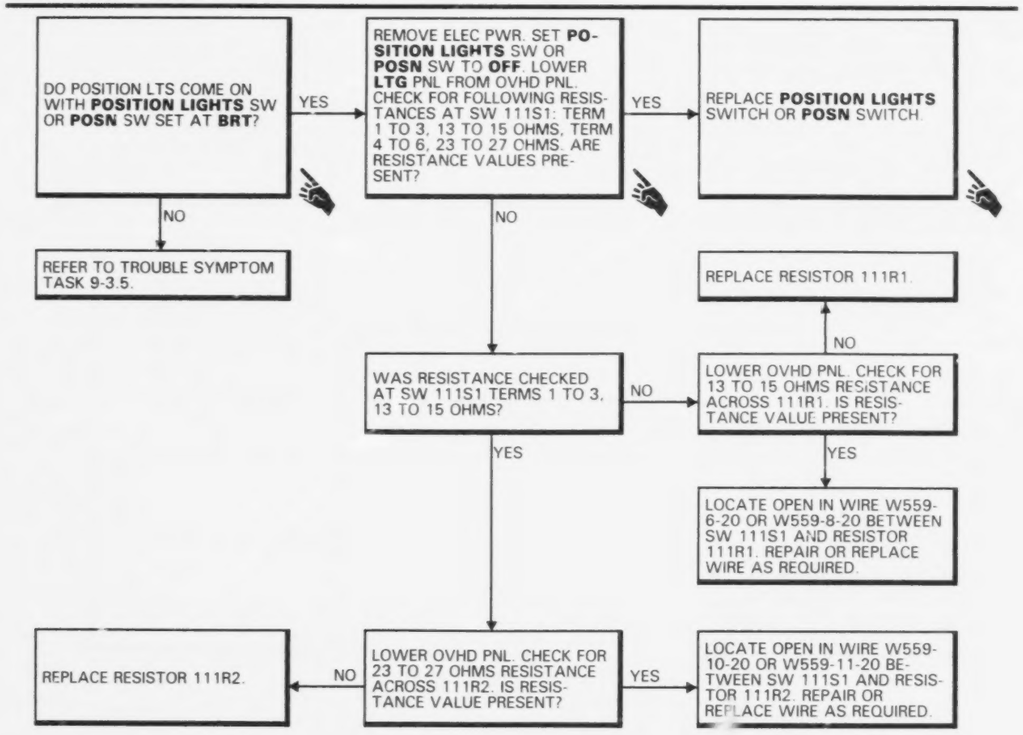
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

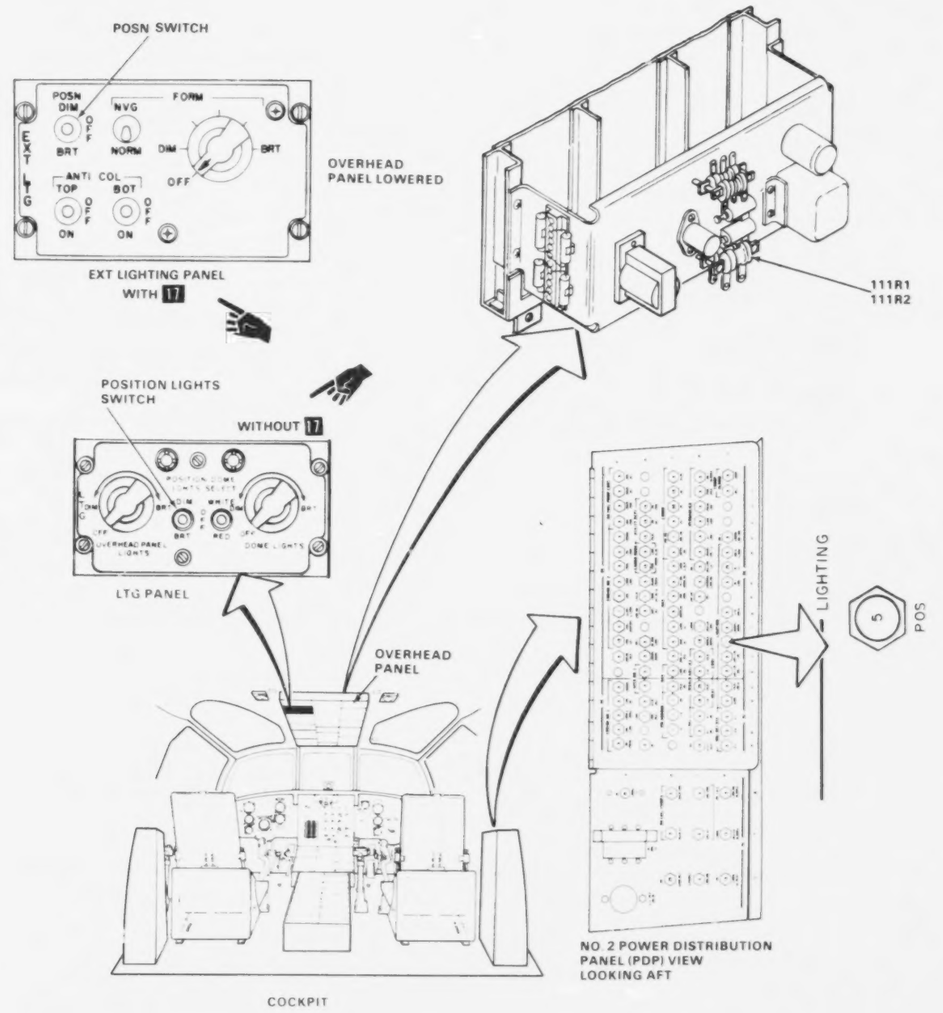
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Visual Check of Position Lights Performed (Task 9-3.2)


DO POSITION LTS COME ON WITH POSITION LIGHTS SW OR POSN SW SET AT BRT?
YES
REMOVE ELEC PWR. SET POSITION LIGHTS SW OR POSN SW TO OFF. LOWER LTG PNL FROM OVHD PNL. CHECK FOR FOLLOWING RESISTANCES AT SW 111S1: TERM 1 TO 3, 13 TO 15 OHMS, TERM 4 TO 6, 23 TO 27 OHMS. ARE RESISTANCE VALUES PRESENT?
YES
REPLACE POSITION LIGHTS SWITCH OR POSN SWITCH.
NO
REFER TO TROUBLE SYMPTOM TASK 9-3.5.
NO
REPLACE RESISTOR 111R1.
NO
WAS RESISTANCE CHECKED AT SW 111S1 TERMS 1 TO 3, 13 TO 15 OHMS?
NO
LOWER OVHD PNL. CHECK FOR 13 TO 15 OHMS RESISTANCE ACROSS 111R1. IS RESISTANCE VALUE PRESENT?
YES
YES
LOCATE OPEN IN WIRE W559-6-20 OR W559-8-20 BETWEEN SW 111S1 AND RESISTOR 111R1. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE RESISTOR 111R2.
NO
LOWER OVHD PNL. CHECK FOR 23 TO 27 OHMS RESISTANCE ACROSS 111R2. IS RESISTANCE VALUE PRESENT?
YES
LOCATE OPEN IN WIRE W559-10-20 OR W559-11-20 BETWEEN SW 111S1 AND RESISTOR 111R2. REPAIR OR REPLACE WIRE AS REQUIRED.



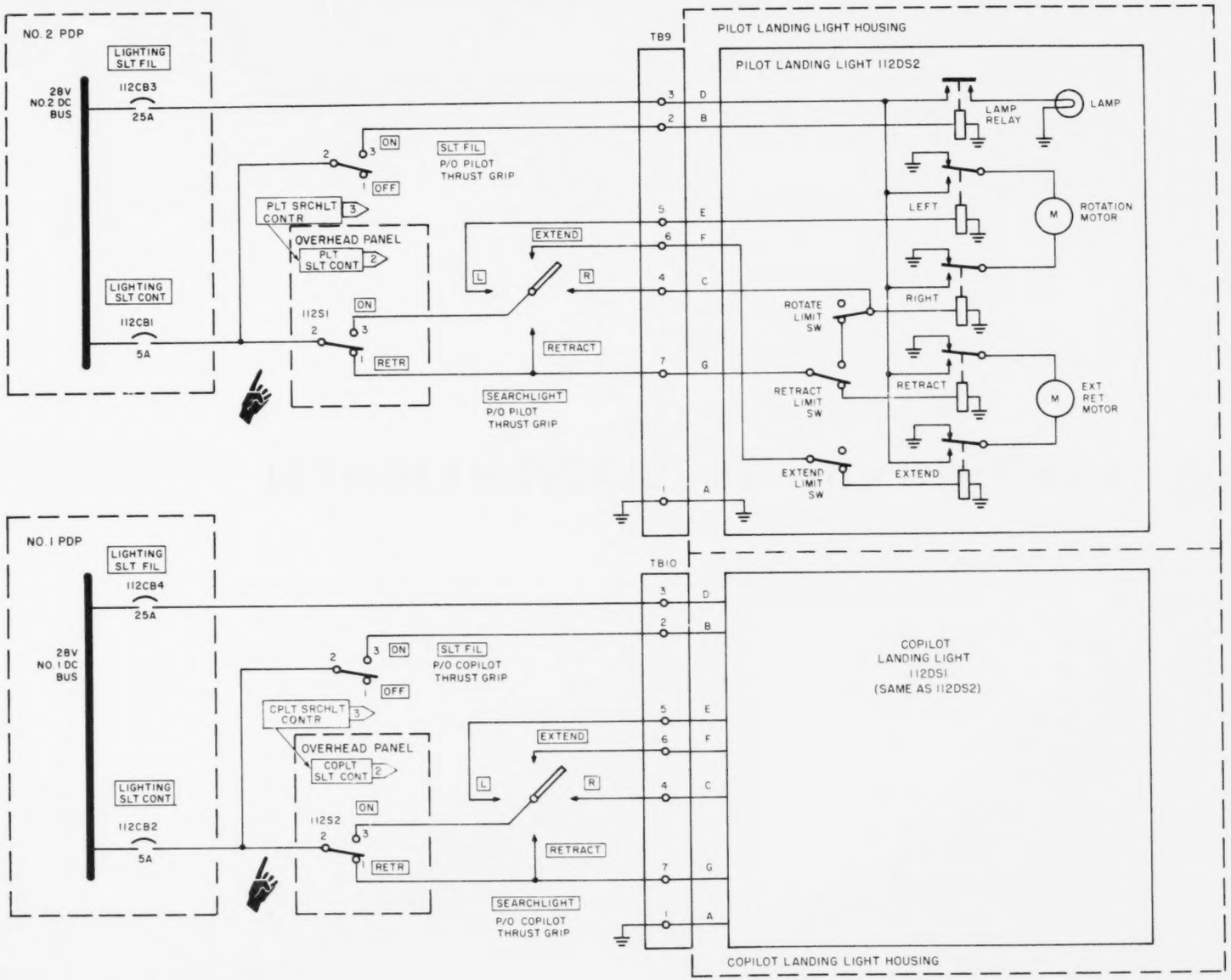
10319

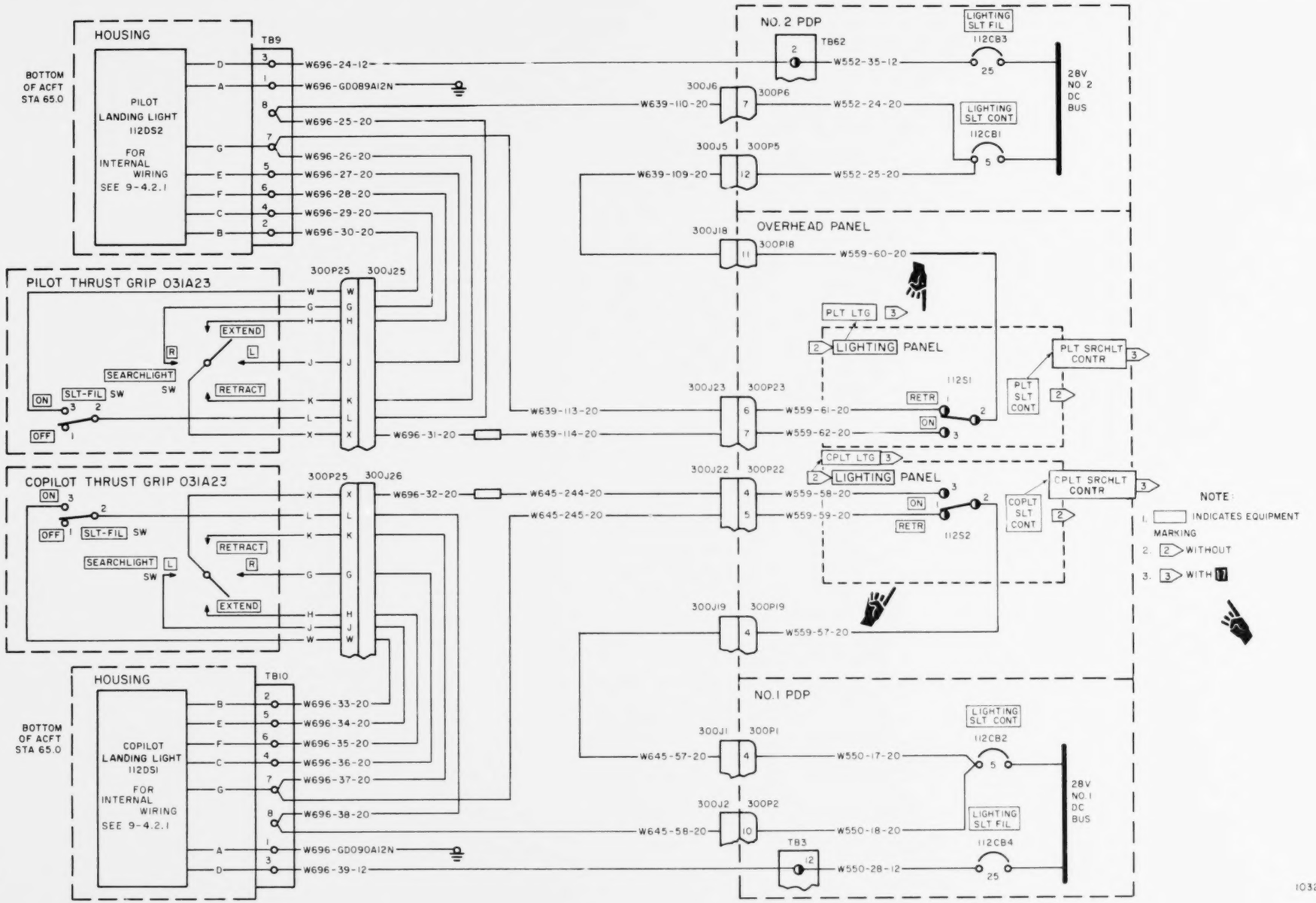
END OF TASK

9-4 LANDING LIGHTS (SEARCH LIGHTS)

9-4 LANDING LIGHTS (SEARCHLIGHTS) 9-4

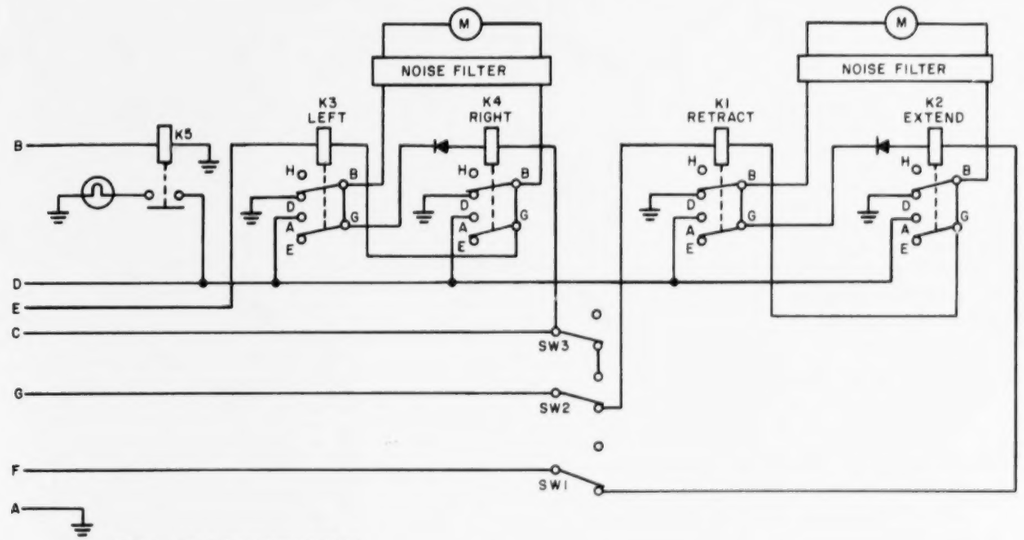
9-4.1 LANDING LIGHTS (SEARCHLIGHTS) SCHEMATIC DIAGRAM 9-4.1



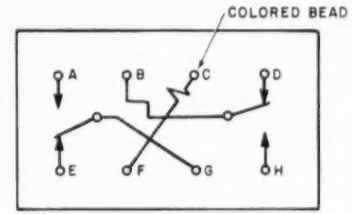

HOUSING
TB9
BOTTOM OF ACFT STA 65.0
PILOT LANDING LIGHT 112DS2
FOR INTERNAL WIRING SEE 9-4.2.1
W696-24-12
W696-GD089AI2N
W696-25-20
W696-26-20
W696-27-20
W696-28-20
W696-29-20
W696-30-20
NO. 2 PDP
TB62
LIGHTING SLT FIL
112CB3
W552-35-12
28V NO. 2 DC BUS
300J6
300P6
W639-110-20
W552-24-20
LIGHTING SLT CONT
112CB1
300J5
300P5
W639-109-20
W552-25-20
OVERHEAD PANEL
300J18
300P18
W559-60-20
PILOT THRUST GRIP 031A23
300P25
300J25
EXTEND
RETRACT
SEARCHLIGHT SW
SLT-FIL SW
ON
OFF
W639-113-20
W696-31-20
W639-114-20
300J23
300P23
W559-61-20
W559-62-20
PLT LTG
LIGHTING PANEL
PLT SRCHLT CONTR
PLT SLT CONT
112S1
RETR
COPILOT THRUST GRIP 031A23
300P25
300J26
W696-32-20
W645-244-20
W645-245-20
300J22
300P22
W559-58-20
W559-59-20
CPLT LTG
CPLT SRCHLT CONTR
COPLT SLT CONT
112S2
300J19
300P19
W559-57-20
NO. 1 PDP
HOUSING
TB10
BOTTOM OF ACFT STA 65.0
COPILOT LANDING LIGHT 112DS1
FOR INTERNAL WIRING SEE 9-4.2.1
W696-33-20
W696-34-20
W696-35-20
W696-36-20
W696-37-20
W696-38-20
W696-GD090AI2N
W696-39-12
300J1
300P1
W645-57-20
W550-17-20
LIGHTING SLT CONT
112CB2
28V NO. 1 DC BUS
300J2
300P2
W645-58-20
W550-18-20
LIGHTING SLT FIL
112CB4
TB3
W550-28-12
NOTE:
1. INDICATES EQUIPMENT MARKING
2. 2 WITHOUT
3. 3 WITH 17
112.100
10321

END OF TASK

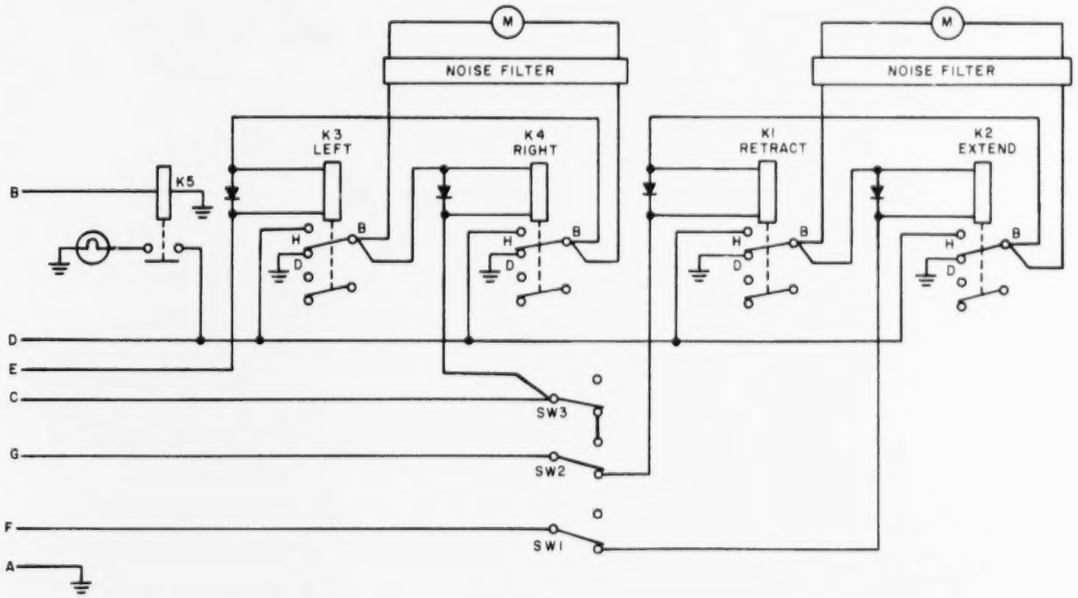
9-4.2.1 LANDING LIGHT (SEARCHLIGHT) INTERNAL WIRING DIAGRAM



SERIAL NO.1 THROUGH 68595



PIN VIEW OF RELAYS K1 THROUGH K4



SERIAL NO. 68596 AND SUBEQUENT

10495

90 X 48

9-4.3 LANDING LIGHTS (SEARCHLIGHTS) VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

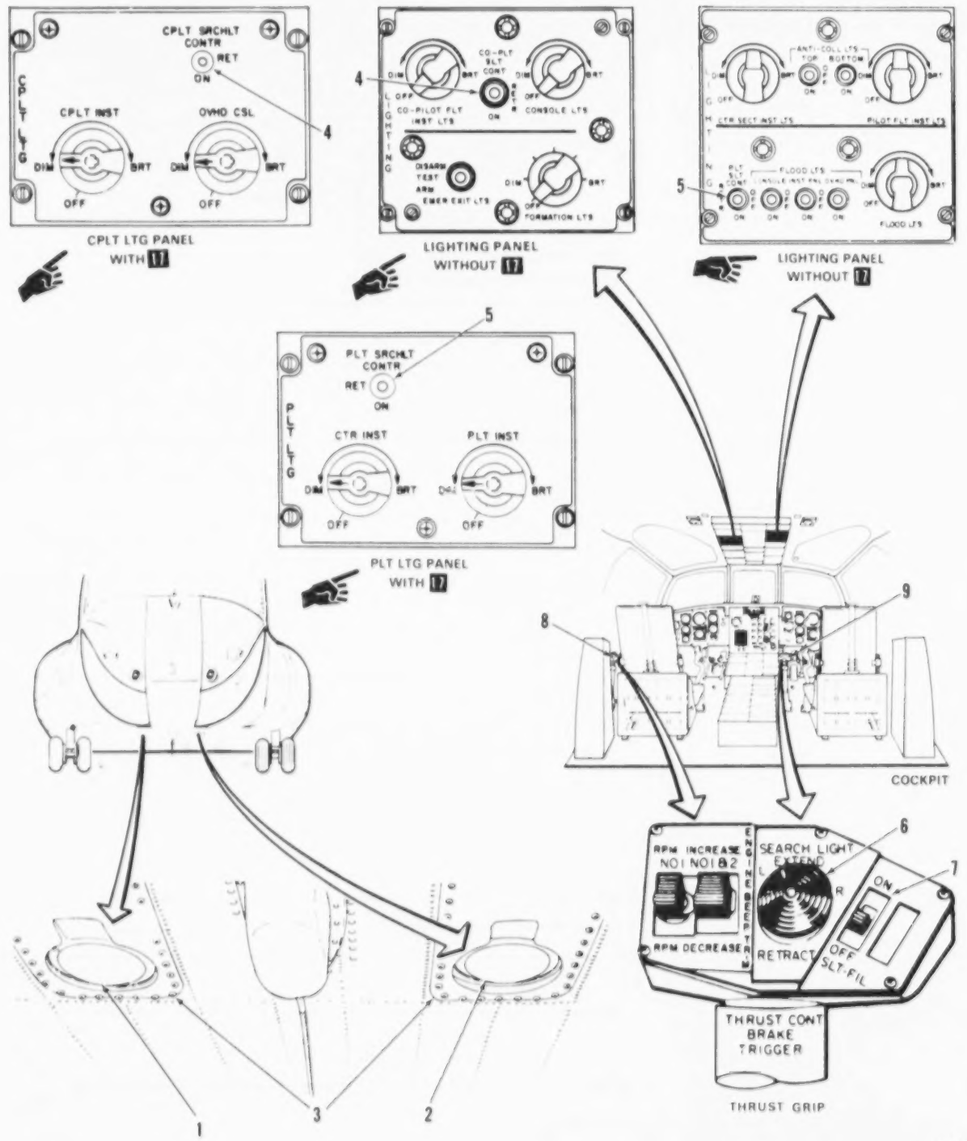
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check pilot's and copilot's landing lights (searchlights) (1 and 2).**	If landing light (1 or 2) is bent, broken or has damaged parts, replace landing light. If landing light housing screws (3) are loose, tighten them.
2. **Check CO-PLT SLT CONT switch (4)** on left LIGHTING panel or **CPLT SRCHLT CONTR** switch.	If switch (4) is loose or damaged, tighten or replace it as required.
3. **Check PLT SLT CONT switch (5)** on right lighting panel or **PLT SRCHLT CONTR switch.**	If switch (5) is loose or damaged, tighten or replace it as required.
4. **Check SEARCH LIGHT switch (6) and SLT-FIL switch (7)** on pilot's and copilot's thrust grips (8 and 9).	If either switch (6 or 7) is loose or damaged, tighten or replace it as required.

FOLLOW-ON MAINTENANCE:
None



END OF TASK

9-4.4 LANDING LIGHTS (SEARCHLIGHTS) OPERATIONAL CHECK 9-4.4

INITIAL SETUP

Applicable Configurations:
All

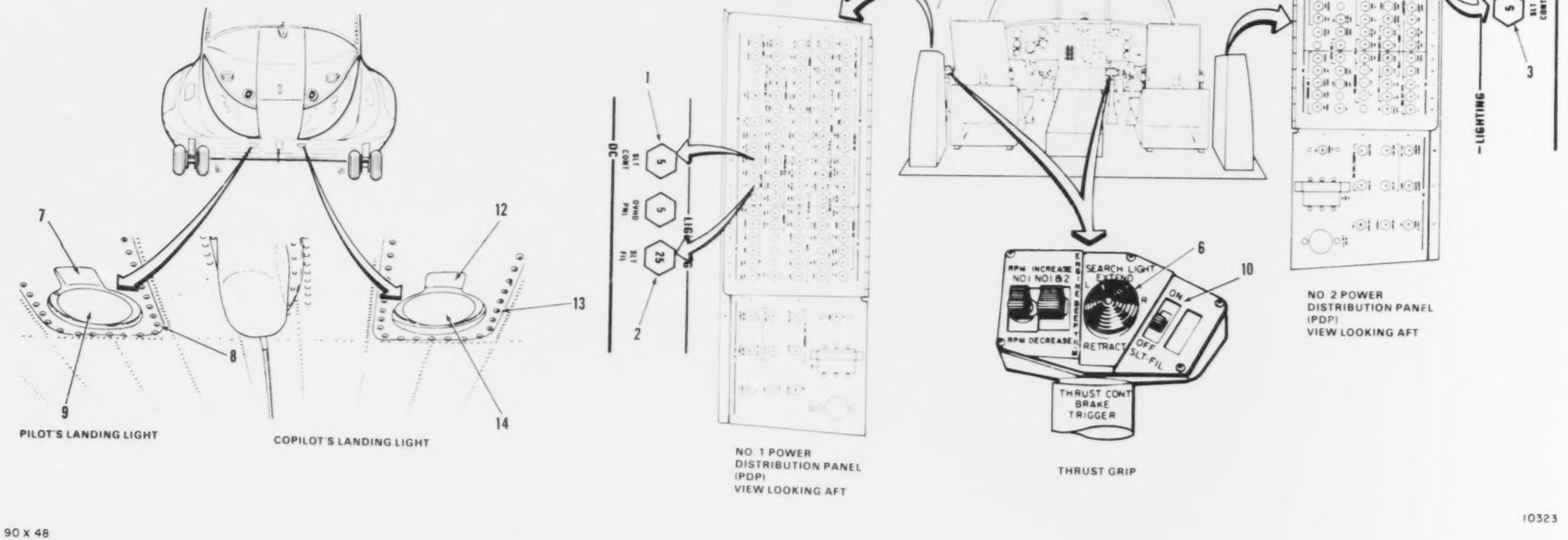
Tools:
None

Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Landing Lights (Searchlights) Visual Check Performed (Task 9-4.3)



90 X 48

10323

GO TO NEXT PAGE

9-4.4 LANDING LIGHTS (SEARCHLIGHTS) OPERATIONAL CHECK (Continued)

TASK	RESULT
CAUTION **Do not move SEARCHLIGHT switch directly from one direction to opposite direction. Release switch to center position before moving it to a new direction. Abnormally rapid switching can damage relay contacts.**	
CHECK CIRCUIT BREAKER	
1. **Check that LIGHTING SLT CONT circuit breaker (1) and SLT FIL circuit breaker (2) are closed.**	If SLT CONT circuit breaker (1) is open close it. If it opens again, go to task 9-4.5. If SLT FIL circuit breaker (2) is open, close it. If it opens again, go to task 9-4.6.
2. **Check that LIGHTING SLT CONT circuit breaker (3) and SLT FIL circuit breaker (4) are closed.**	If SLT CONT circuit breaker (3) is open, close it. If it opens again, go to task 9-4.7. If SLT FIL circuit breaker (4) is open, close it. If it opens again, go to task 9-4.6.
CHECK PILOT'S LANDING LIGHT	
3. **Set PLT SLT CONT switch** or **PLT SRCHLT CONTR switch (5) to ON.**	
4. **Set and hold pilot's SEARCH LIGHT switch (6) to EXTEND.**	Pilot's landing light (7) shall fully extend from housing (8). If landing light (7) does not fully extend, go to task 9-4.8.
5. **Set and hold pilot's SEARCH LIGHT switch (6) to L and then to R.**	Pilot's landing light (7) shall rotate counterclockwise and then clockwise. If light does not rotate in both directions, go to task 9-4.9.
6. **Set and hold pilot's SEARCH LIGHT switch (6) to RETRACT.**	Pilot's landing light (7) shall fully retract into housing (8) with lamp (9) facing down. If light does not fully retract, or lamp is not facing down, go to task 9-4.10.
7. **Set and hold pilot's SEARCH LIGHT switch (6) to EXTEND.**	Pilot's landing light (7) shall fully extend from housing (8).
CAUTION **Prolonged lighting of landing light on ground will reduce its useful life.**	
8. **Set pilot's SLT-FIL switch (10) to ON.**	Pilot's landing light (7) shall come on. If it does not, go to task 9-4.11.
9. **Set pilot's SLT-FIL switch (10) to OFF.**	Pilot's landing light (7) shall go out. If not, replace landing light.
10. **Set PLT SLT CONT switch** or **PLT SRCHLT CONTR switch (5) to RETR.**	Pilot's landing light (7) shall fully retract into housing (8). If light does not fully retract, go to task 9-4.12.
CHECK COPILOT'S LANDING LIGHT	
11. **Set CO-PLT SLT CONT switch** or **CPLT SRCHLT CONTR switch (11) to ON.**	
12. **Set and hold copilot's SEARCH LIGHT switch (6) to EXTEND.**	Copilot's landing light (12) shall fully extend from housing (13). If light does not fully extend, go to task 9-4.13.
13. **Set and hold copilot's SEARCH LIGHT switch (6) to L and then to R.**	Copilot's landing light (12) shall rotate counterclockwise and then clockwise. If light does not rotate in both directions, go to task 9-4.9.
14. **Set and hold copilot's SEARCH LIGHT switch (6) to RETRACT.**	Copilot's landing light (12) shall fully retract in housing (13) with lamp (14) facing down. If light does not fully retract, or lamp is not facing down, go to task 9-4.10.
15. **Set and hold copilot's SEARCH LIGHT switch (6) to EXTEND.**	Copilot's landing light (12) shall fully extend from housing (13).
CAUTION **Prolonged lighting of landing light on ground will reduce its useful life.**	WARNING **With 17, do not look into lighted NVG landing light. Infra-red light output can seriously injure eyes. Use night vision goggles or feel for heat from copilot's landing light to check its operation.**
16. **Set copilot's SLT-FIL switch (10) to ON.**	Copilot's landing light (12) shall come on. If it does not, go to task 9-4.14.
17. **Set copilot's SLT-FIL switch (10) to OFF.**	Copilot's landing light (12) shall go out. If not, replace landing light.
18. **Set CO-PLT SLT CONT switch** or **CPLT SRCHLT CONTR switch (11) to RETR.**	Copilot's landing light (12) shall fully retract into housing (13). If light does not fully retract, go to task 9-4.15.

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off

END OF TASK

9-4.5 SLT CONT CIRCUIT BREAKER (COPILOT'S) DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

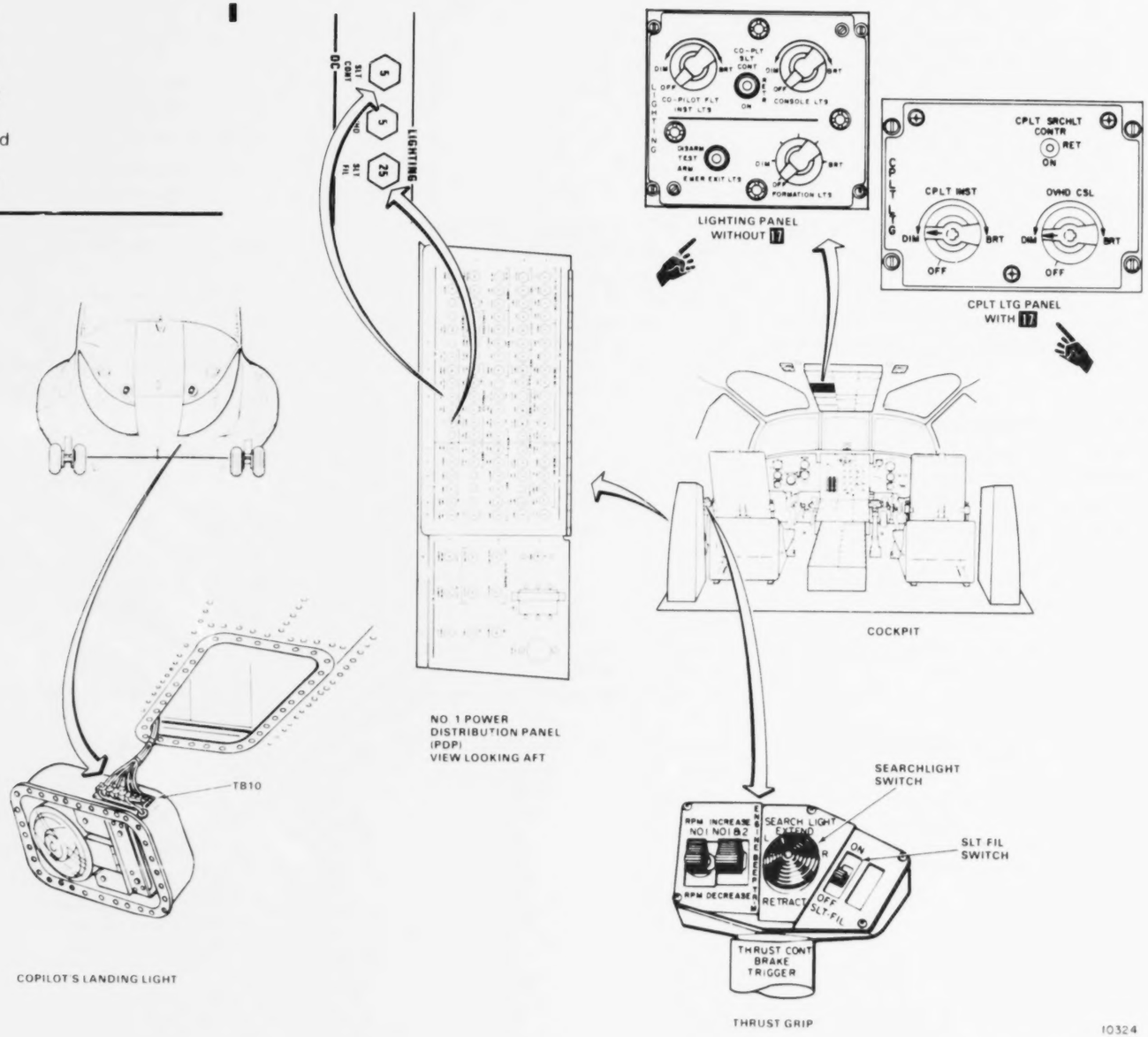
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



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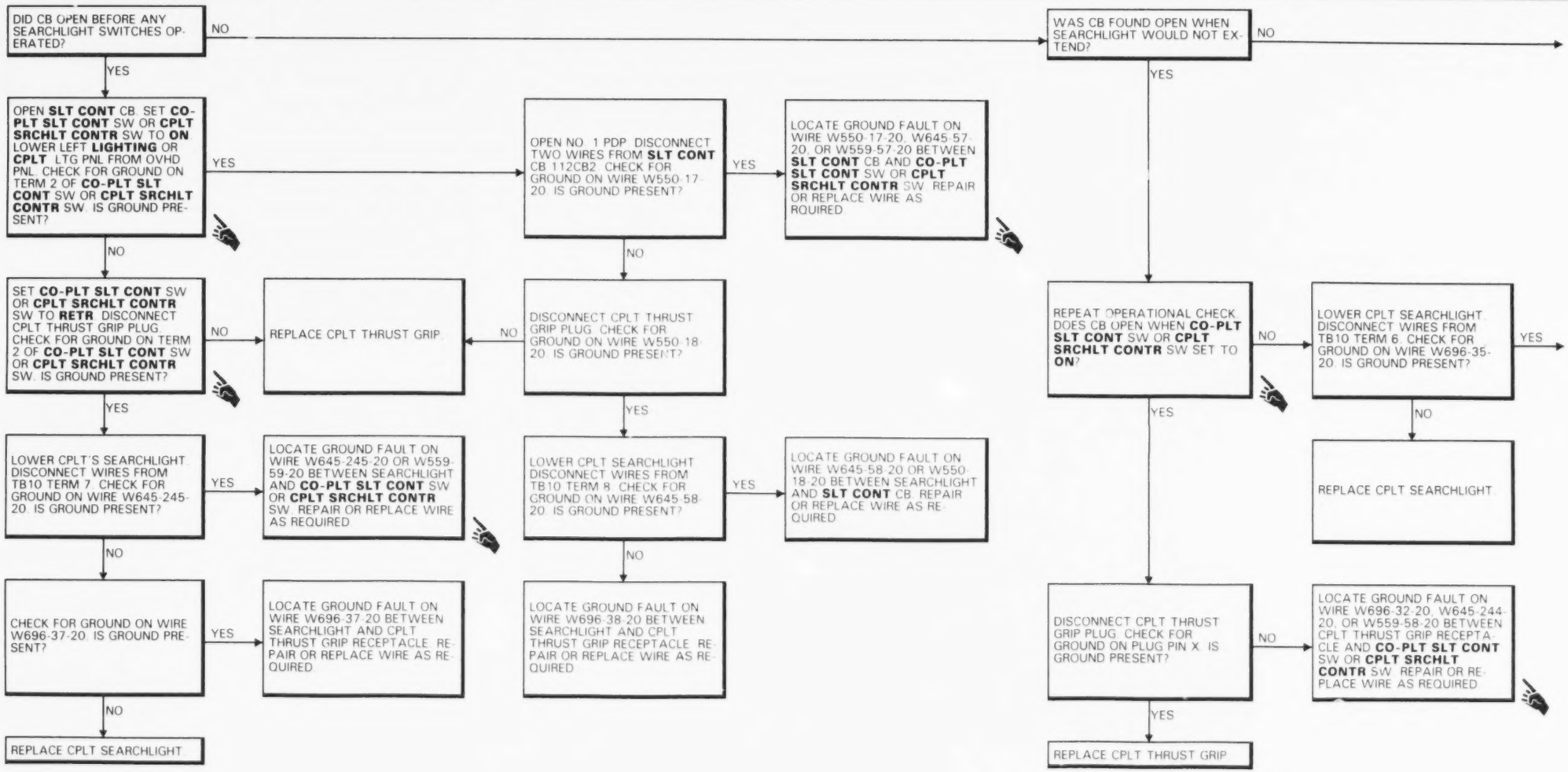
9-4.5 SLT CONT CIRCUIT BREAKER (COPILOT'S) DOES NOT STAY CLOSED (Continued)


DID CB OPEN BEFORE ANY SEARCHLIGHT SWITCHES OPERATED?
NO
YES
OPEN **SLT CONT** CB. SET **CO-PLT SLT CONT** SW OR **CPLT SRCHLT CONTR** SW TO **ON**. LOWER LEFT **LIGHTING** OR **CPLT** LTG PNL FROM OVHD PNL. CHECK FOR GROUND ON TERM 2 OF **CO-PLT SLT CONT** SW OR **CPLT SRCHLT CONTR** SW. IS GROUND PRESENT?
YES
OPEN NO. 1 PDP. DISCONNECT TWO WIRES FROM **SLT CONT** CB 112CB2. CHECK FOR GROUND ON WIRE W550-17-20. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W550-17-20, W645-57-20, OR W559-57-20 BETWEEN **SLT CONT** CB AND **CO-PLT SLT CONT** SW OR **CPLT SRCHLT CONTR** SW. REPAIR OR REPLACE WIRE AS RQUIRED
NO
SET **CO-PLT SLT CONT** SW OR **CPLT SRCHLT CONTR** SW TO **RETR**. DISCONNECT CPLT THRUST GRIP PLUG. CHECK FOR GROUND ON TERM 2 OF **CO-PLT SLT CONT** SW OR **CPLT SRCHLT CONTR** SW. IS GROUND PRESENT?
NO
REPLACE CPLT THRUST GRIP
NO
DISCONNECT CPLT THRUST GRIP PLUG. CHECK FOR GROUND ON WIRE W550-18-20. IS GROUND PRESENT?
YES
LOWER CPLT'S SEARCHLIGHT DISCONNECT WIRES FROM TB10 TERM 7. CHECK FOR GROUND ON WIRE W645-245-20. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W645-245-20 OR W559-59-20 BETWEEN SEARCHLIGHT AND **CO-PLT SLT CONT** SW OR **CPLT SRCHLT CONTR** SW. REPAIR OR REPLACE WIRE AS REQUIRED
NO
CHECK FOR GROUND ON WIRE W696-37-20. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W696-37-20 BETWEEN SEARCHLIGHT AND CPLT THRUST GRIP RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE CPLT SEARCHLIGHT
LOWER CPLT SEARCHLIGHT DISCONNECT WIRES FROM TB10 TERM 8. CHECK FOR GROUND ON WIRE W645-58-20. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W645-58-20 OR W550-18-20 BETWEEN SEARCHLIGHT AND **SLT CONT** CB. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE GROUND FAULT ON WIRE W696-38-20 BETWEEN SEARCHLIGHT AND CPLT THRUST GRIP RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED
WAS CB FOUND OPEN WHEN SEARCHLIGHT WOULD NOT EXTEND?
NO
YES
REPEAT OPERATIONAL CHECK. DOES CB OPEN WHEN **CO-PLT SLT CONT** SW OR **CPLT SRCHLT CONTR** SW SET TO **ON**?
NO
LOWER CPLT SEARCHLIGHT DISCONNECT WIRES FROM TB10 TERM 6. CHECK FOR GROUND ON WIRE W696-35-20. IS GROUND PRESENT?
YES
NO
REPLACE CPLT SEARCHLIGHT
YES
DISCONNECT CPLT THRUST GRIP PLUG. CHECK FOR GROUND ON PLUG PIN X. IS GROUND PRESENT?
NO
LOCATE GROUND FAULT ON WIRE W696-32-20, W645-244-20, OR W559-58-20 BETWEEN CPLT THRUST GRIP RECEPTACLE AND **CO-PLT SLT CONT** SW OR **CPLT SRCHLT CONTR** SW. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE CPLT THRUST GRIP

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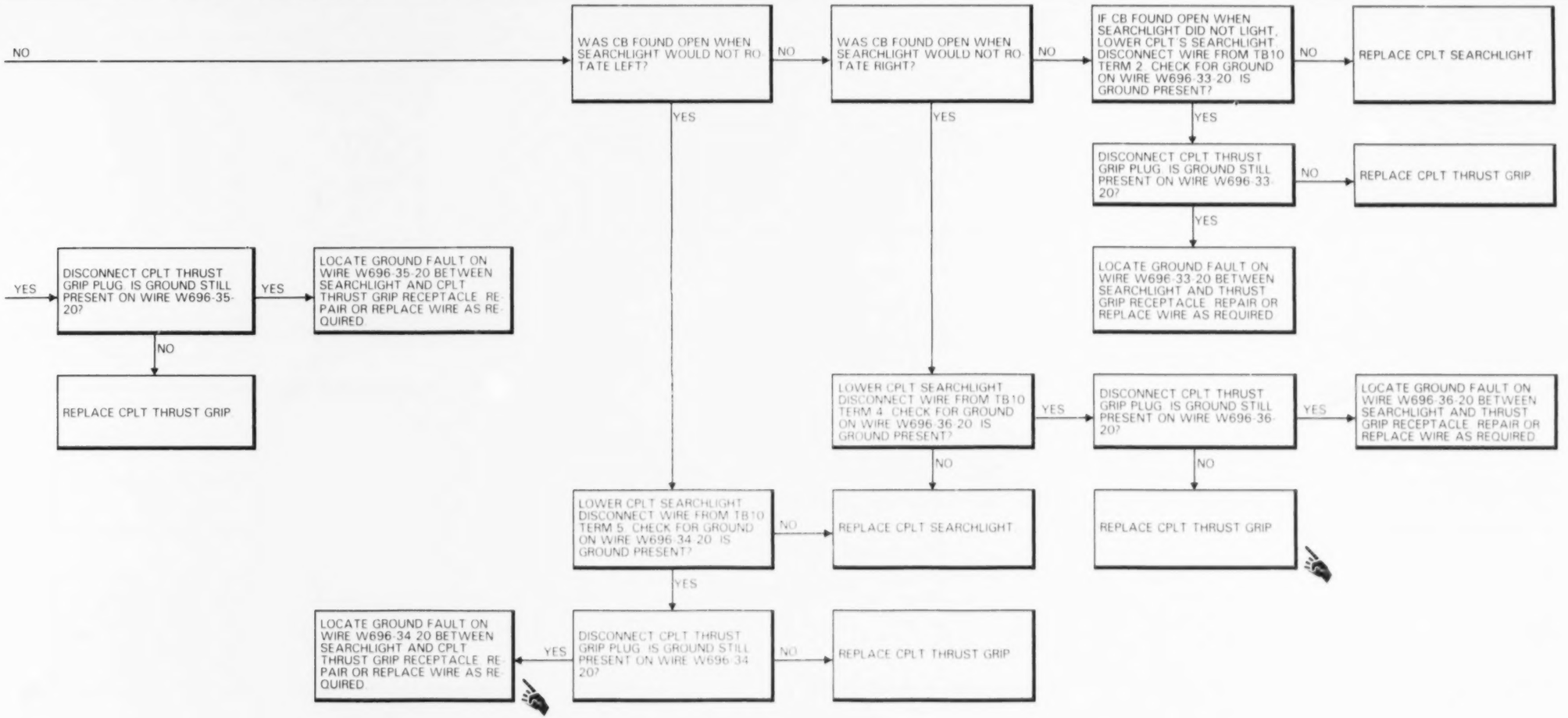
9-4.5 SLT CONT CIRCUIT BREAKER (COPILOT'S) DOES NOT STAY CLOSED (Continued) 9-4.5


NO
WAS CB FOUND OPEN WHEN SEARCHLIGHT WOULD NOT ROTATE LEFT?
NO
WAS CB FOUND OPEN WHEN SEARCHLIGHT WOULD NOT ROTATE RIGHT?
NO
IF CB FOUND OPEN WHEN SEARCHLIGHT DID NOT LIGHT, LOWER CPLT'S SEARCHLIGHT DISCONNECT WIRE FROM TB10 TERM 2. CHECK FOR GROUND ON WIRE W696-33-20. IS GROUND PRESENT?
NO
REPLACE CPLT SEARCHLIGHT
YES
YES
YES
DISCONNECT CPLT THRUST GRIP PLUG. IS GROUND STILL PRESENT ON WIRE W696-33-20?
NO
REPLACE CPLT THRUST GRIP
YES
LOCATE GROUND FAULT ON WIRE W696-33-20 BETWEEN SEARCHLIGHT AND THRUST GRIP RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED
YES
DISCONNECT CPLT THRUST GRIP PLUG. IS GROUND STILL PRESENT ON WIRE W696-35-20?
YES
LOCATE GROUND FAULT ON WIRE W696-35-20 BETWEEN SEARCHLIGHT AND CPLT THRUST GRIP RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE CPLT THRUST GRIP
LOWER CPLT SEARCHLIGHT DISCONNECT WIRE FROM TB10 TERM 4. CHECK FOR GROUND ON WIRE W696-36-20. IS GROUND PRESENT?
YES
DISCONNECT CPLT THRUST GRIP PLUG. IS GROUND STILL PRESENT ON WIRE W696-36-20?
YES
LOCATE GROUND FAULT ON WIRE W696-36-20 BETWEEN SEARCHLIGHT AND THRUST GRIP RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED
NO
NO
REPLACE CPLT THRUST GRIP
LOWER CPLT SEARCHLIGHT DISCONNECT WIRE FROM TB10 TERM 5. CHECK FOR GROUND ON WIRE W696-34-20. IS GROUND PRESENT?
NO
REPLACE CPLT SEARCHLIGHT
YES
LOCATE GROUND FAULT ON WIRE W696-34-20 BETWEEN SEARCHLIGHT AND CPLT THRUST GRIP RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED
YES
DISCONNECT CPLT THRUST GRIP PLUG. IS GROUND STILL PRESENT ON WIRE W696-34-20?
NO
REPLACE CPLT THRUST GRIP

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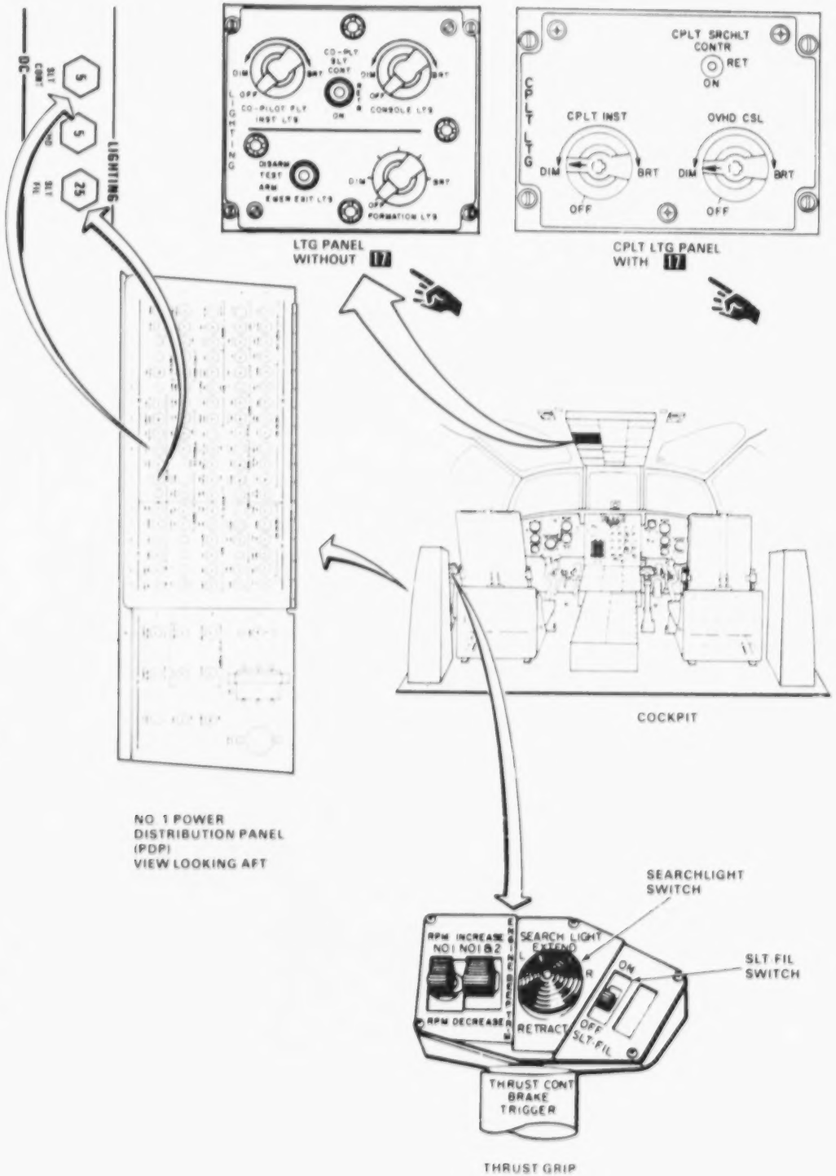
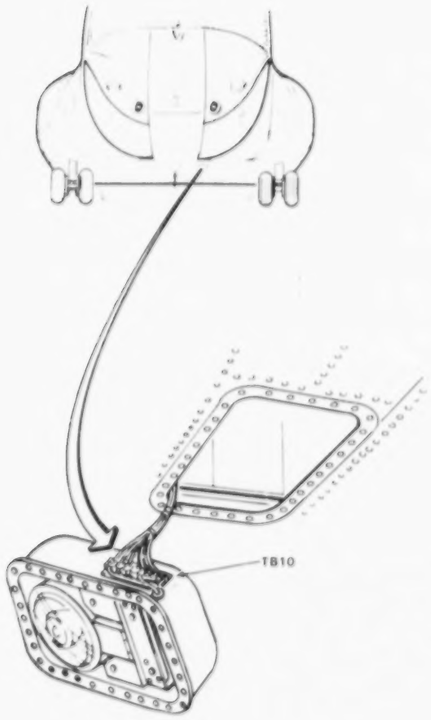




COPILOT S LANDING LIGHT

NO 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT

10325

END OF TASK

9-4.6 SLT FIL CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

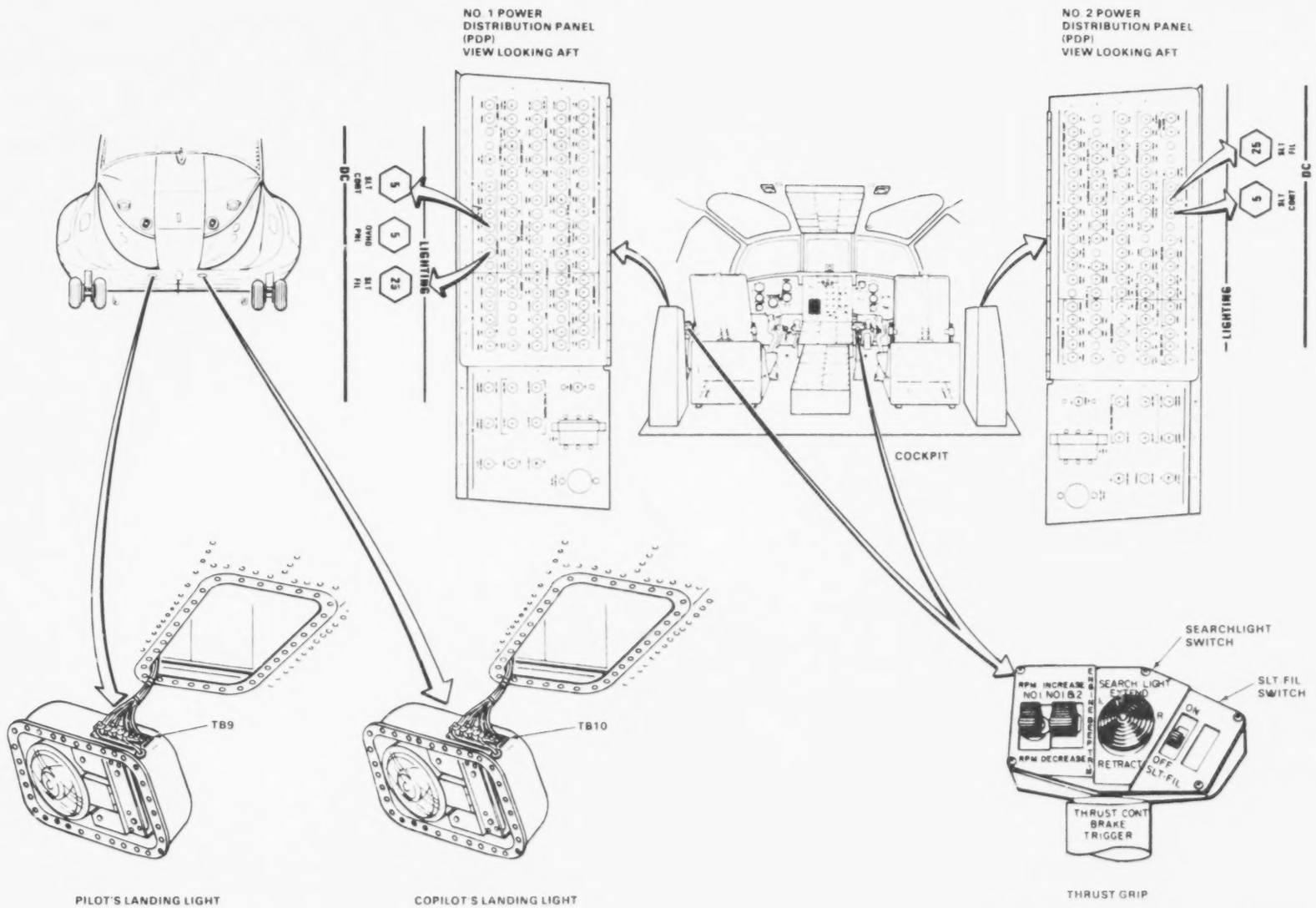
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician
68F10 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



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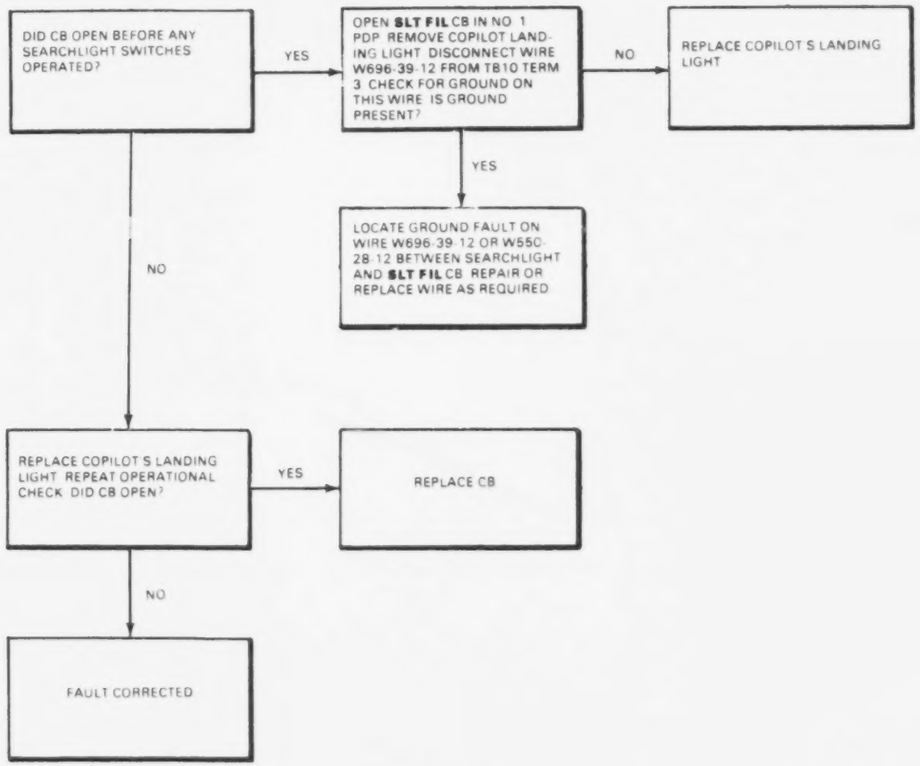
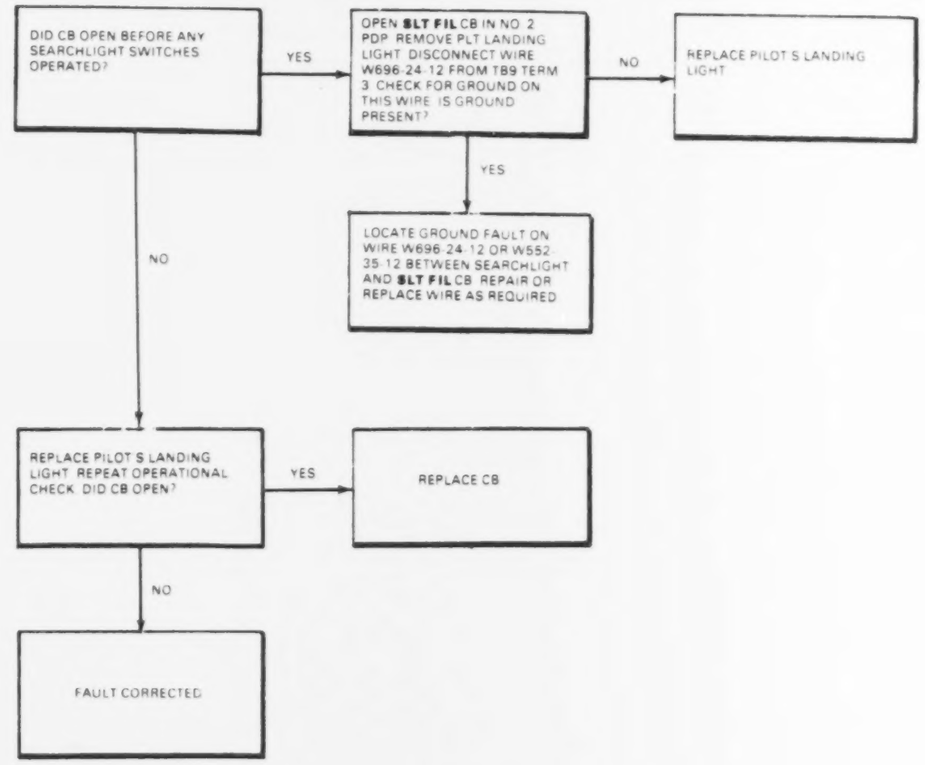
9-4.6 SLT FIL CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)

NO. 1 PDP SLT FIL CIRCUIT BREAKER DOES NOT STAY CLOSED


DID CB OPEN BEFORE ANY SEARCHLIGHT SWITCHES OPERATED?
YES
OPEN SLT FIL CB IN NO. 1 PDP. REMOVE COPILOT LANDING LIGHT. DISCONNECT WIRE W696-39-12 FROM T810 TERM 3. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
REPLACE COPILOT S LANDING LIGHT
YES
LOCATE GROUND FAULT ON WIRE W696-39-12 OR W550-28-12 BETWEEN SEARCHLIGHT AND SLT FIL CB. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE COPILOT S LANDING LIGHT. REPEAT OPERATIONAL CHECK. DID CB OPEN?
YES
REPLACE CB
NO
FAULT CORRECTED

NO. 2 PDP SLT FIL CIRCUIT BREAKER DOES NOT STAY CLOSED


DID CB OPEN BEFORE ANY SEARCHLIGHT SWITCHES OPERATED?
YES
OPEN SLT FIL CB IN NO. 2 PDP. REMOVE PLT LANDING LIGHT. DISCONNECT WIRE W696-24-12 FROM T89 TERM 3. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
REPLACE PILOT S LANDING LIGHT
YES
LOCATE GROUND FAULT ON WIRE W696-24-12 OR W552-35-12 BETWEEN SEARCHLIGHT AND SLT FIL CB. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE PILOT S LANDING LIGHT. REPEAT OPERATIONAL CHECK. DID CB OPEN?
YES
REPLACE CB
NO
FAULT CORRECTED

END OF TASK

9-4.7 SLT CONT CIRCUIT BREAKER (PILOT'S) DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

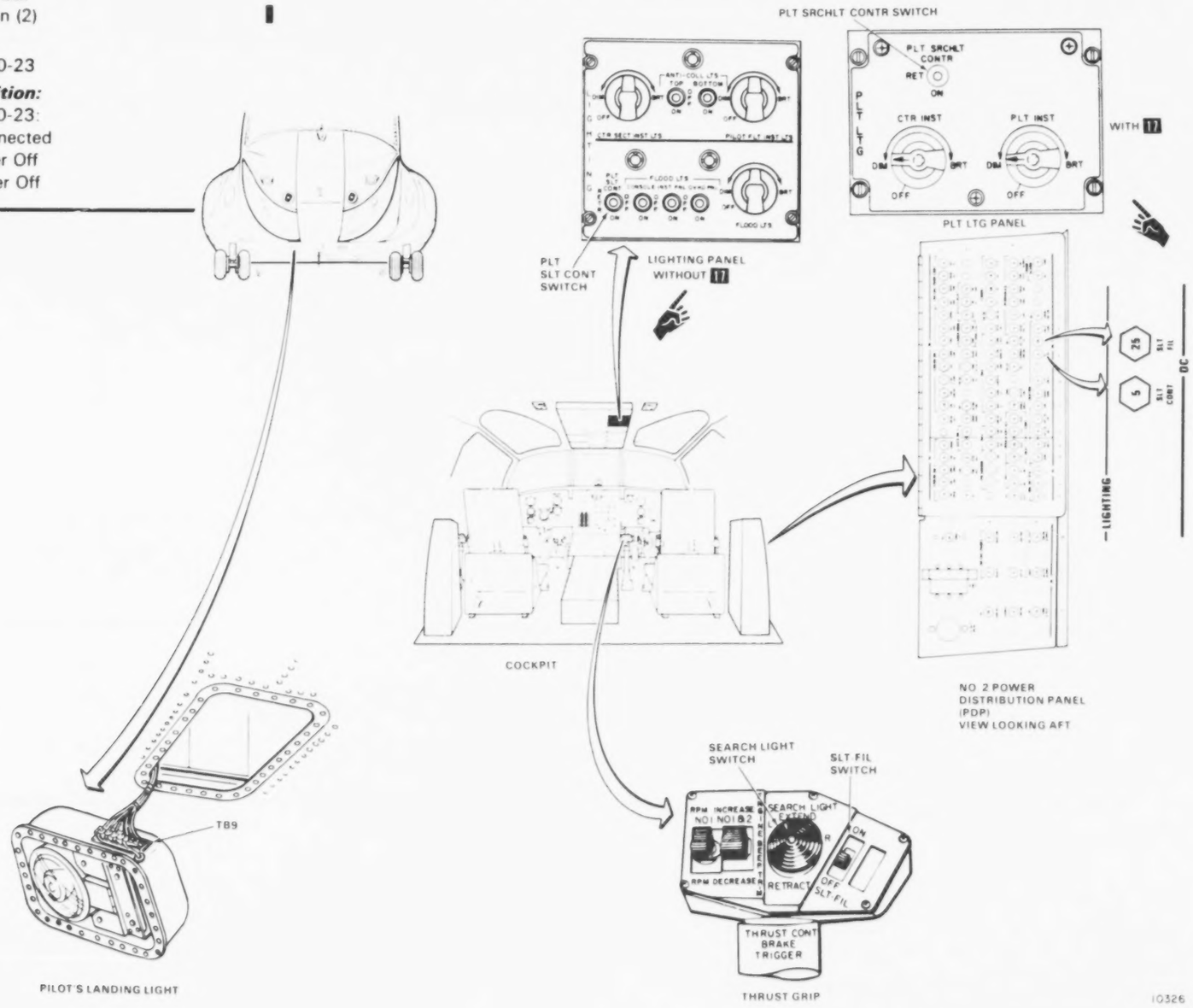
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



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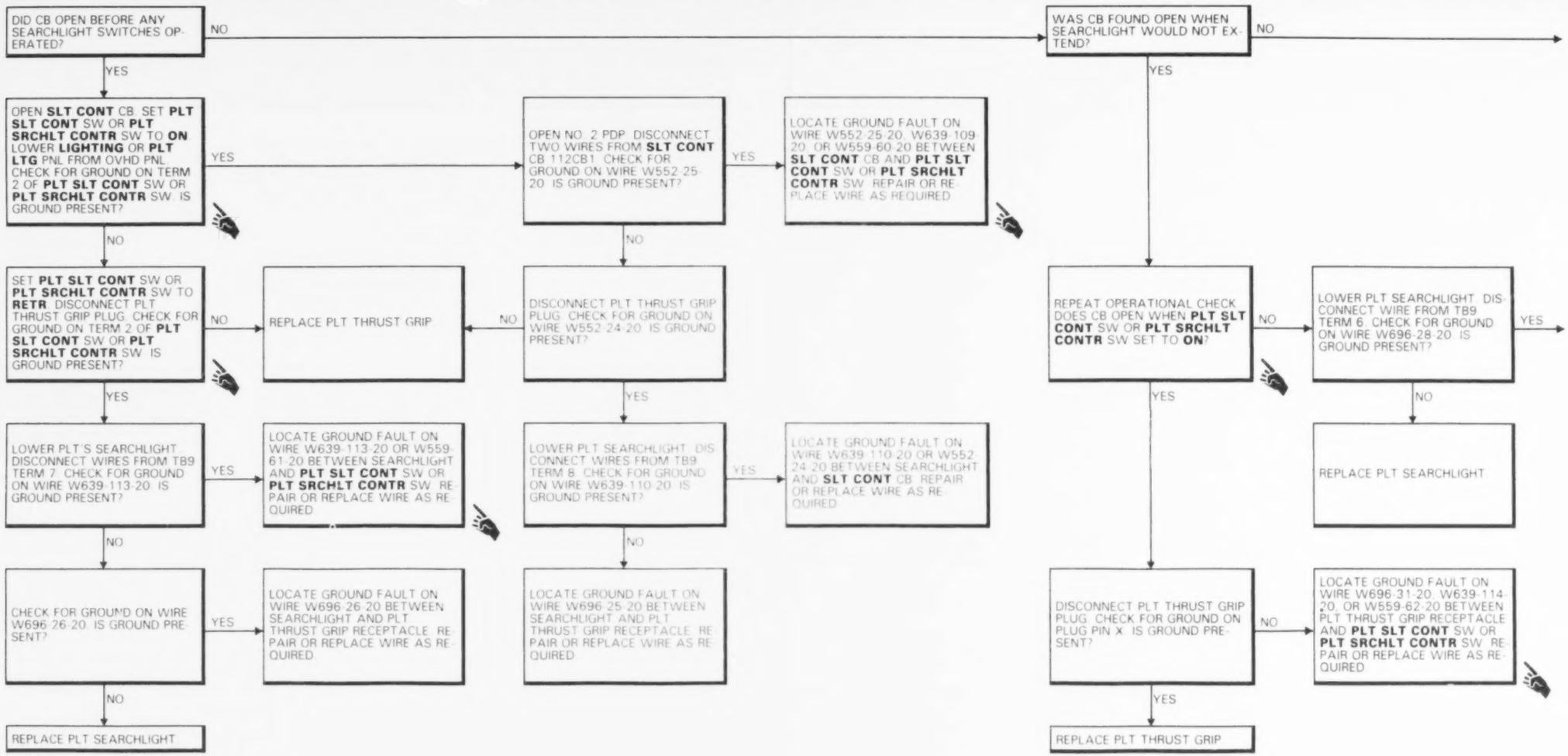
DID CB OPEN BEFORE ANY SEARCHLIGHT SWITCHES OPERATED?
NO
YES
OPEN **SLT CONT** CB. SET **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW TO **ON**. LOWER **LIGHTING** OR **PLT LTG** PNL FROM OVHD PNL. CHECK FOR GROUND ON TERM 2 OF **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW. IS GROUND PRESENT?
YES
OPEN NO. 2 PDP. DISCONNECT TWO WIRES FROM **SLT CONT** CB 112CB1. CHECK FOR GROUND ON WIRE W552-25-20. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W552-25-20, W639-109-20, OR W559-60-20 BETWEEN **SLT CONT** CB AND **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
SET **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW TO **RETR**. DISCONNECT PLT THRUST GRIP PLUG. CHECK FOR GROUND ON TERM 2 OF **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW. IS GROUND PRESENT?
NO
REPLACE PLT THRUST GRIP.
NO
DISCONNECT PLT THRUST GRIP PLUG. CHECK FOR GROUND ON WIRE W552-24-20. IS GROUND PRESENT?
YES
LOWER PLT'S SEARCHLIGHT. DISCONNECT WIRES FROM TB9 TERM 7. CHECK FOR GROUND ON WIRE W639-113-20. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W639-113-20 OR W559-61-20 BETWEEN SEARCHLIGHT AND **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW. REPAIR OR REPLACE WIRE AS REQUIRED.
LOWER PLT SEARCHLIGHT. DISCONNECT WIRES FROM TB9 TERM 8. CHECK FOR GROUND ON WIRE W639-110-20. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W639-110-20 OR W552-24-20 BETWEEN SEARCHLIGHT AND **SLT CONT** CB. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR GROUND ON WIRE W696-26-20. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W696-26-20 BETWEEN SEARCHLIGHT AND PLT THRUST GRIP RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE PLT SEARCHLIGHT
NO
LOCATE GROUND FAULT ON WIRE W696-25-20 BETWEEN SEARCHLIGHT AND PLT THRUST GRIP RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED.
WAS CB FOUND OPEN WHEN SEARCHLIGHT WOULD NOT EXTEND?
NO
YES
REPEAT OPERATIONAL CHECK. DOES CB OPEN WHEN **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW SET TO **ON**?
NO
LOWER PLT SEARCHLIGHT. DISCONNECT WIRE FROM TB9 TERM 6. CHECK FOR GROUND ON WIRE W696-28-20. IS GROUND PRESENT?
YES
NO
REPLACE PLT SEARCHLIGHT.
YES
DISCONNECT PLT THRUST GRIP PLUG. CHECK FOR GROUND ON PLUG PIN X. IS GROUND PRESENT?
NO
LOCATE GROUND FAULT ON WIRE W696-31-20, W639-114-20, OR W559-62-20 BETWEEN PLT THRUST GRIP RECEPTACLE AND **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE PLT THRUST GRIP.

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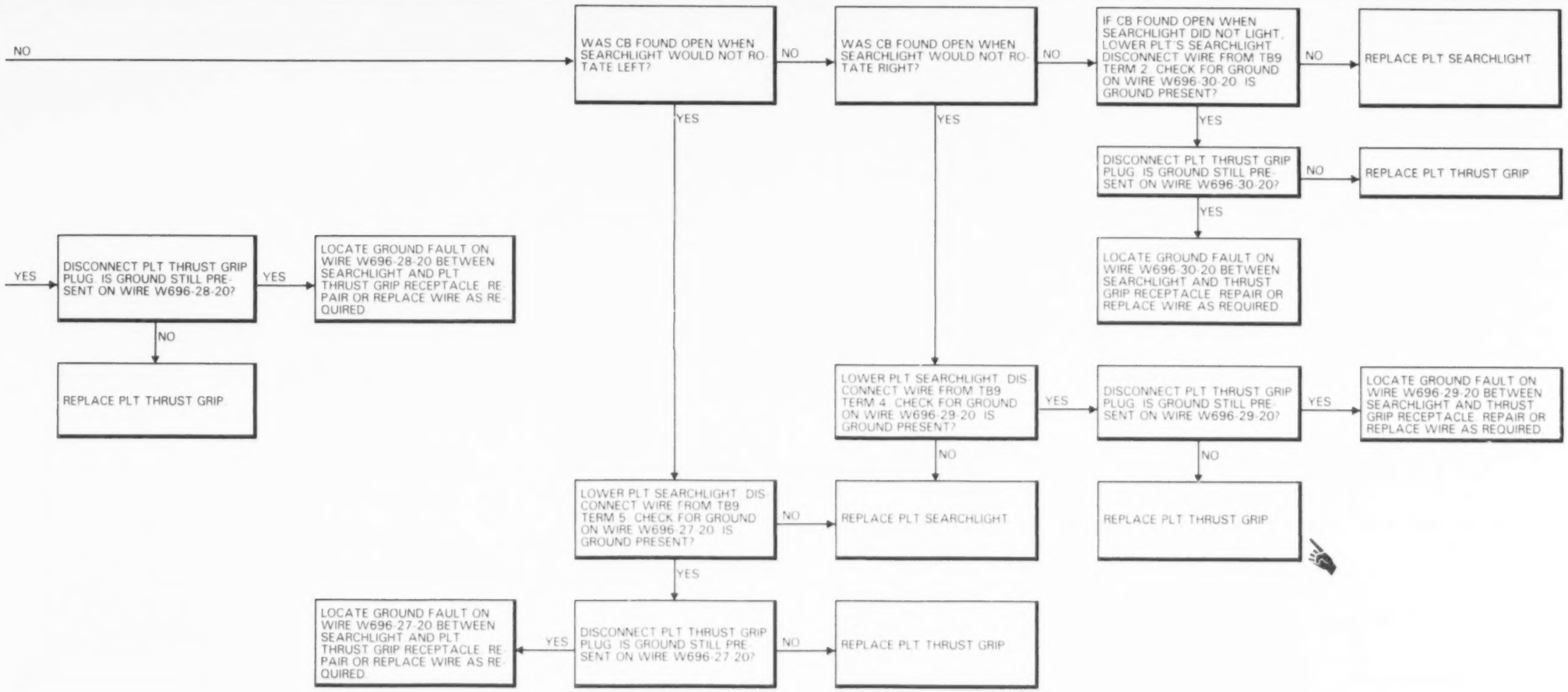
9-4.7 SLT CONT CIRCUIT BREAKER (PILOT'S) DOES NOT STAY CLOSED (Continued)


NO
WAS CB FOUND OPEN WHEN SEARCHLIGHT WOULD NOT ROTATE LEFT?
NO
WAS CB FOUND OPEN WHEN SEARCHLIGHT WOULD NOT ROTATE RIGHT?
NO
IF CB FOUND OPEN WHEN SEARCHLIGHT DID NOT LIGHT, LOWER PLT'S SEARCHLIGHT DISCONNECT WIRE FROM TB9 TERM 2. CHECK FOR GROUND ON WIRE W696-30-20. IS GROUND PRESENT?
NO
REPLACE PLT SEARCHLIGHT
YES
YES
DISCONNECT PLT THRUST GRIP PLUG. IS GROUND STILL PRESENT ON WIRE W696-30-20?
NO
REPLACE PLT THRUST GRIP
YES
LOCATE GROUND FAULT ON WIRE W696-30-20 BETWEEN SEARCHLIGHT AND THRUST GRIP RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED
YES
DISCONNECT PLT THRUST GRIP PLUG. IS GROUND STILL PRESENT ON WIRE W696-28-20?
YES
LOCATE GROUND FAULT ON WIRE W696-28-20 BETWEEN SEARCHLIGHT AND PLT THRUST GRIP RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE PLT THRUST GRIP
YES
LOWER PLT SEARCHLIGHT. DISCONNECT WIRE FROM TB9 TERM 4. CHECK FOR GROUND ON WIRE W696-29-20. IS GROUND PRESENT?
YES
DISCONNECT PLT THRUST GRIP PLUG. IS GROUND STILL PRESENT ON WIRE W696-29-20?
YES
LOCATE GROUND FAULT ON WIRE W696-29-20 BETWEEN SEARCHLIGHT AND THRUST GRIP RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED
NO
NO
LOWER PLT SEARCHLIGHT. DISCONNECT WIRE FROM TB9 TERM 5. CHECK FOR GROUND ON WIRE W696-27-20. IS GROUND PRESENT?
NO
REPLACE PLT SEARCHLIGHT
REPLACE PLT THRUST GRIP
YES
LOCATE GROUND FAULT ON WIRE W696-27-20 BETWEEN SEARCHLIGHT AND PLT THRUST GRIP RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED
YES
DISCONNECT PLT THRUST GRIP PLUG. IS GROUND STILL PRESENT ON WIRE W696-27-20?
NO
REPLACE PLT THRUST GRIP

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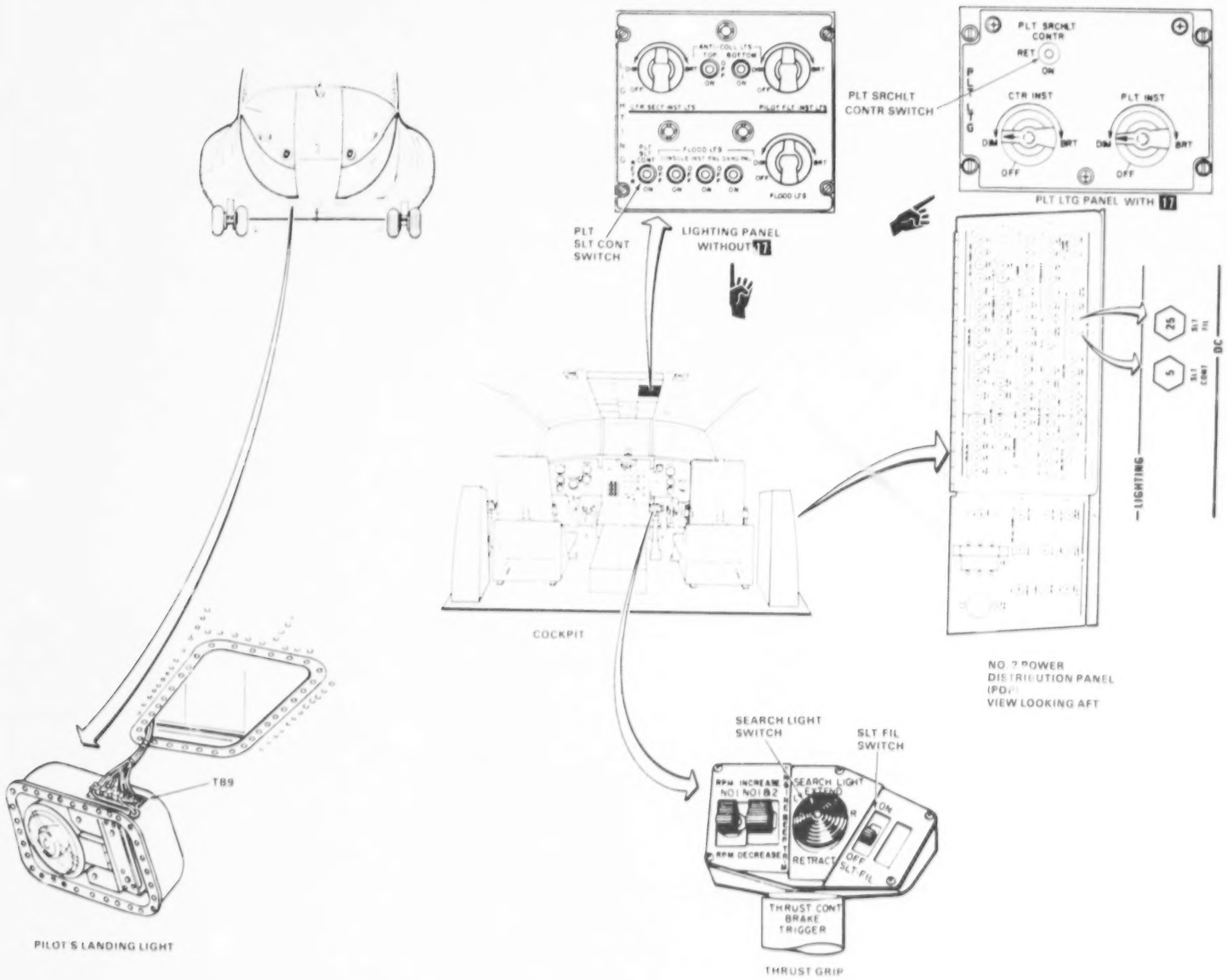
9-4.7 SLT CONT CIRCUIT BREAKER (PILOT'S) DOES NOT STAY CLOSED (Continued)



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9-4.8 PILOT'S LANDING LIGHT DOES NOT EXTEND OR DOES NOT FULLY EXTEND 9-4.8

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

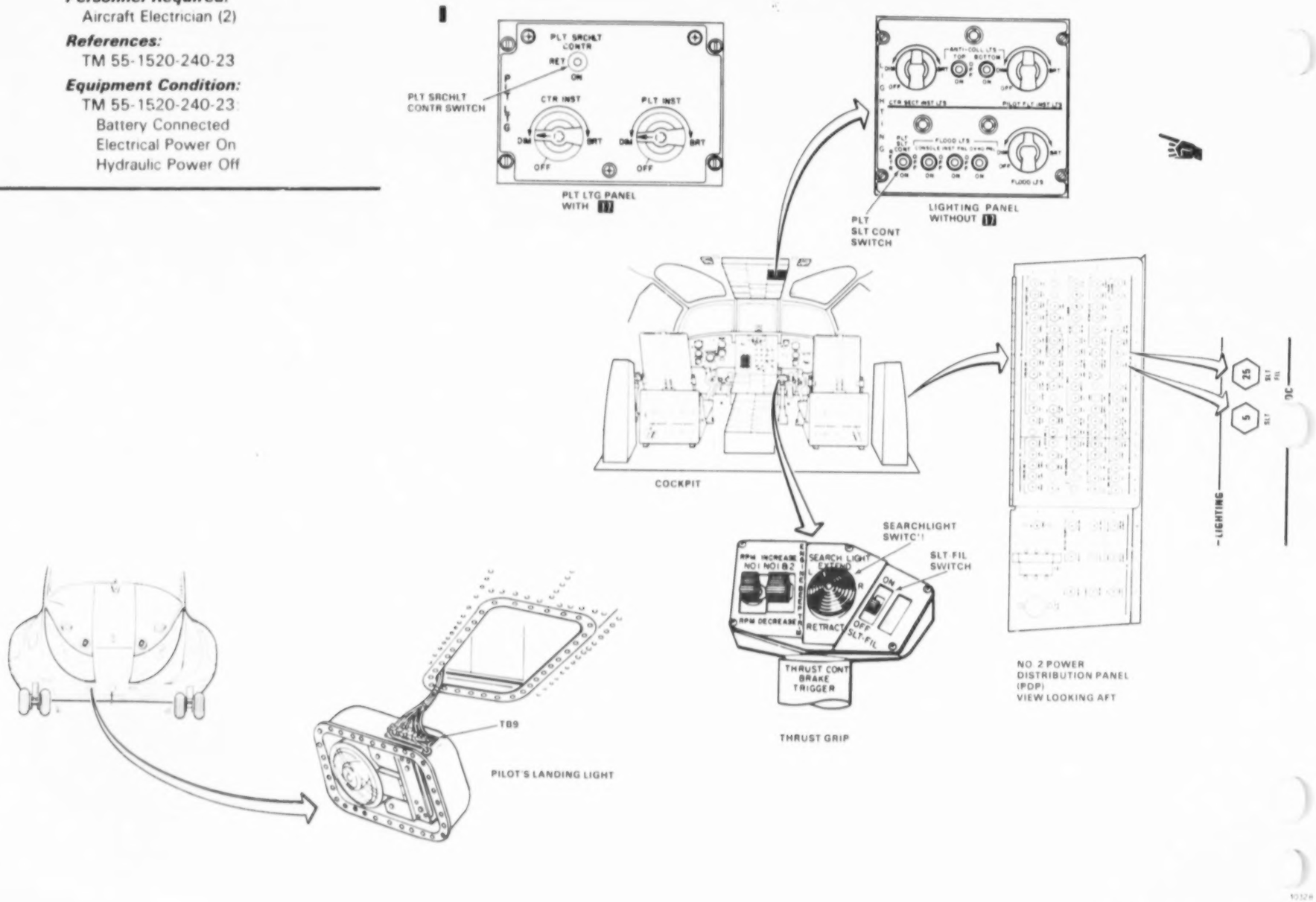
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



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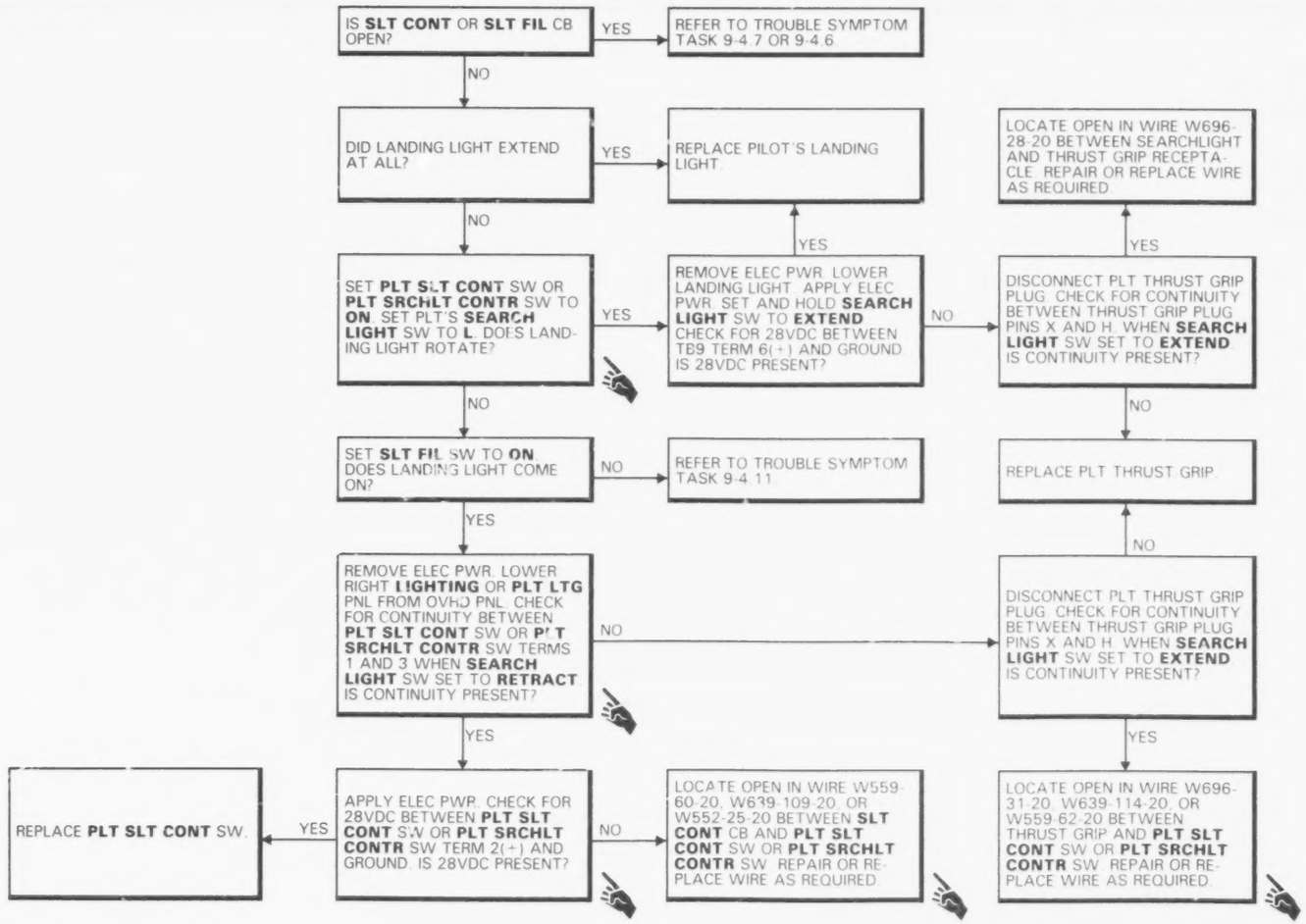
9-4.8 PILOT'S LANDING LIGHT DOES NOT EXTEND OR DOES NOT FULLY EXTEND (Continued)


IS **SLT CONT** OR **SLT FIL** CB OPEN?
YES
REFER TO TROUBLE SYMPTOM TASK 9-4.7 OR 9-4.6.
NO
DID LANDING LIGHT EXTEND AT ALL?
YES
REPLACE PILOT'S LANDING LIGHT.
NO
SET **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW TO **ON**. SET PLT'S **SEARCH LIGHT** SW TO **L**. DOES LANDING LIGHT ROTATE?
YES
REMOVE ELEC PWR. LOWER LANDING LIGHT. APPLY ELEC PWR. SET AND HOLD **SEARCH LIGHT** SW TO **EXTEND**. CHECK FOR 28VDC BETWEEN TB9 TERM 6(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
LOCATE OPEN IN WIRE W696-28-20 BETWEEN SEARCHLIGHT AND THRUST GRIP RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
DISCONNECT PLT THRUST GRIP PLUG. CHECK FOR CONTINUITY BETWEEN THRUST GRIP PLUG PINS X AND H. WHEN **SEARCH LIGHT** SW SET TO **EXTEND**. IS CONTINUITY PRESENT?
NO
REPLACE PLT THRUST GRIP.
NO
DISCONNECT PLT THRUST GRIP PLUG. CHECK FOR CONTINUITY BETWEEN THRUST GRIP PLUG PINS X AND H. WHEN **SEARCH LIGHT** SW SET TO **EXTEND**. IS CONTINUITY PRESENT?
NO
SET **SLT FIL** SW TO **ON**. DOES LANDING LIGHT COME ON?
NO
REFER TO TROUBLE SYMPTOM TASK 9-4.11.
YES
REMOVE ELEC PWR. LOWER RIGHT **LIGHTING** OR **PLT LTG** PNL FROM OVHD PNL. CHECK FOR CONTINUITY BETWEEN **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW TERMS 1 AND 3 WHEN **SEARCH LIGHT** SW SET TO **RETRACT**. IS CONTINUITY PRESENT?
YES
NO
YES
APPLY ELEC PWR. CHECK FOR 28VDC BETWEEN **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW TERM 2(+) AND GROUND. IS 28VDC PRESENT?
YES
REPLACE **PLT SLT CONT** SW.
NO
LOCATE OPEN IN WIRE W559-60-20, W639-109-20, OR W552-25-20 BETWEEN **SLT CONT** CB AND **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE OPEN IN WIRE W696-31-20, W639-114-20, OR W559-62-20 BETWEEN THRUST GRIP AND **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-4.9 PILOT'S OR COPILOT'S LANDING LIGHT WILL NOT ROTATE CLOCKWISE OR COUNTERCLOCKWISE

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

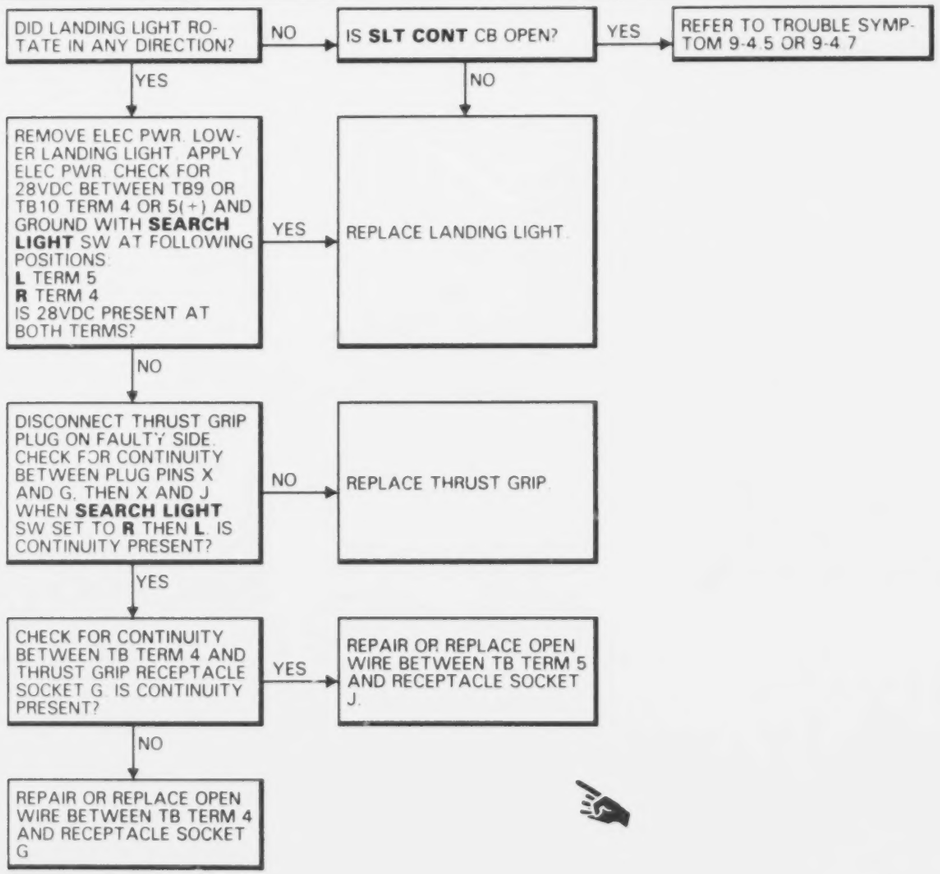
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

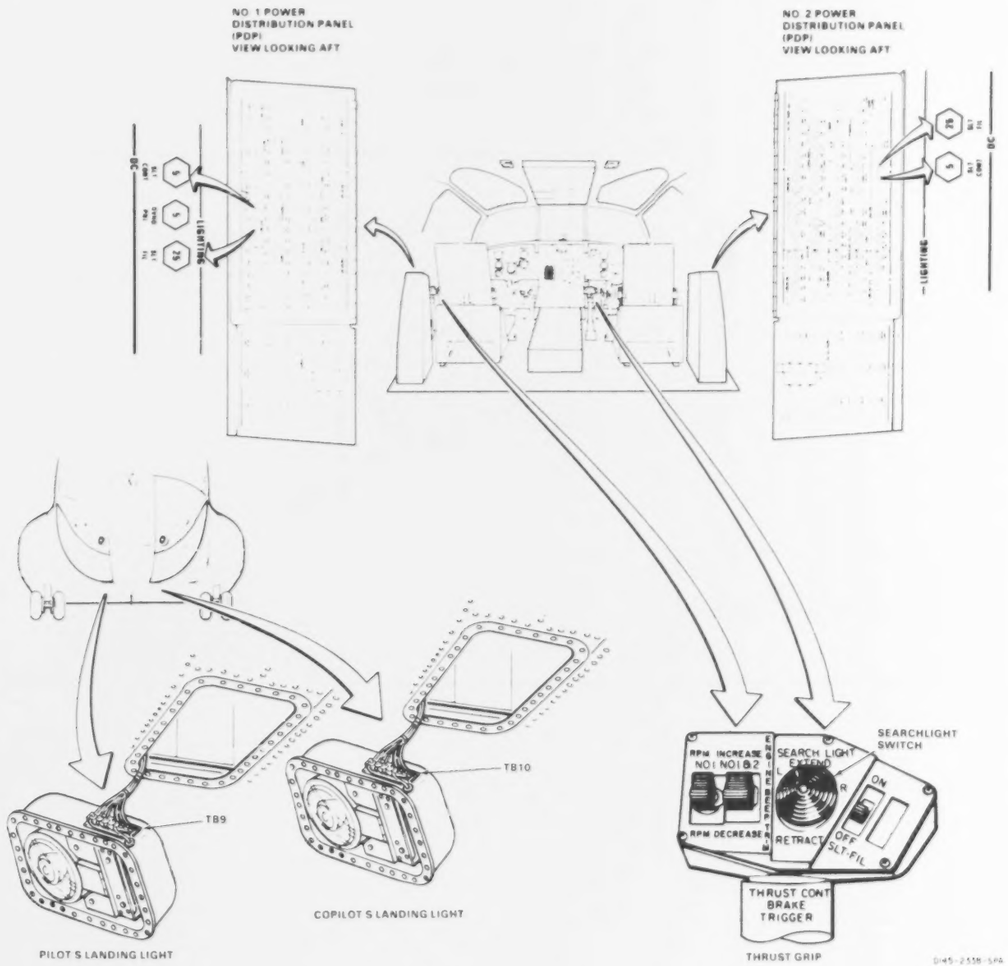
Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power On


DID LANDING LIGHT ROTATE IN ANY DIRECTION?
NO
IS SLT CONT CB OPEN?
YES
REFER TO TROUBLE SYMPTOM 9-4.5 OR 9-4.7
YES
NO
REMOVE ELEC PWR. LOWER LANDING LIGHT. APPLY ELEC PWR. CHECK FOR 28VDC BETWEEN TB9 OR TB10 TERM 4 OR 5(+) AND GROUND WITH SEARCH LIGHT SW AT FOLLOWING POSITIONS:
L TERM 5
R TERM 4
IS 28VDC PRESENT AT BOTH TERMS?
YES
REPLACE LANDING LIGHT.
NO
DISCONNECT THRUST GRIP PLUG ON FAULTY SIDE. CHECK FOR CONTINUITY BETWEEN PLUG PINS X AND G, THEN X AND J WHEN SEARCH LIGHT SW SET TO R THEN L. IS CONTINUITY PRESENT?
NO
REPLACE THRUST GRIP
YES
CHECK FOR CONTINUITY BETWEEN TB TERM 4 AND THRUST GRIP RECEPTACLE SOCKET G. IS CONTINUITY PRESENT?
YES
REPAIR OR REPLACE OPEN WIRE BETWEEN TB TERM 5 AND RECEPTACLE SOCKET J.
NO
REPAIR OR REPLACE OPEN WIRE BETWEEN TB TERM 4 AND RECEPTACLE SOCKET G



END OF TASK

9-4.10 LANDING LIGHT DOES NOT RETRACT OR DOES NOT FULLY RETRACT INTO HOUSING

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

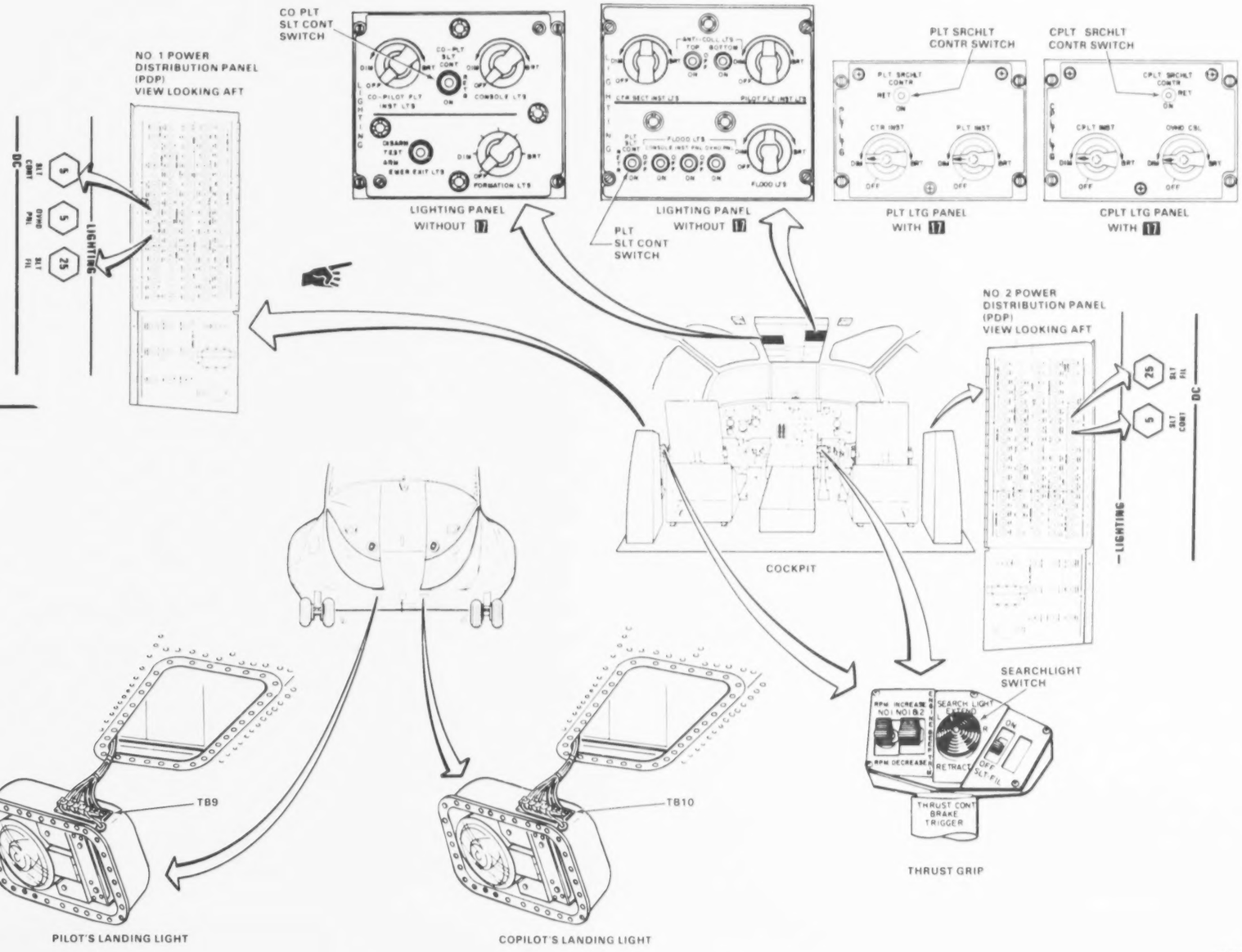
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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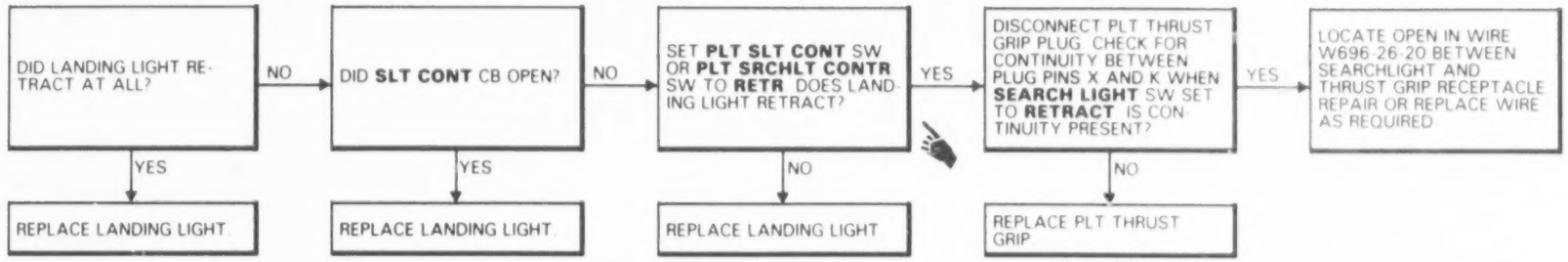
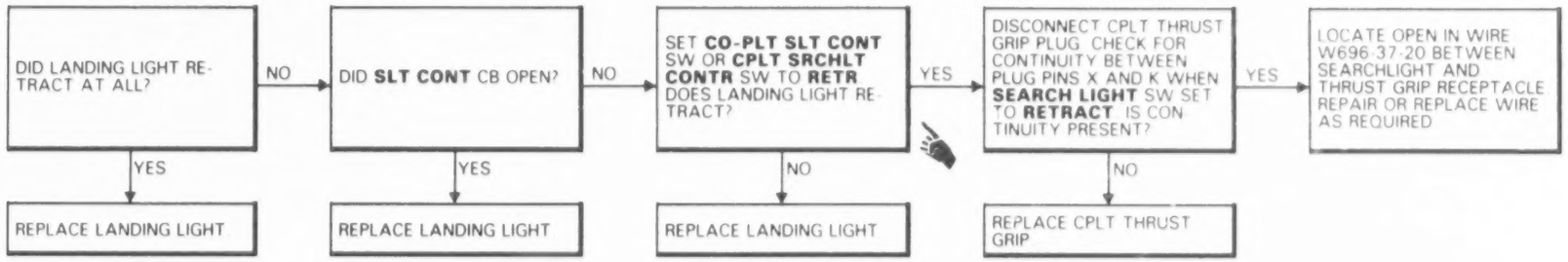
9-4.10 LANDING LIGHT DOES NOT RETRACT OR DOES NOT FULLY RETRACT INTO HOUSING (Continued)

PILOT'S LANDING LIGHT DOES NOT RETRACT OR DOES NOT FULLY RETRACT INTO HOUSING


DID LANDING LIGHT RETRACT AT ALL?
NO
DID **SLT CONT** CB OPEN?
NO
SET **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW TO **RETR** DOES LANDING LIGHT RETRACT?
YES
DISCONNECT PLT THRUST GRIP PLUG. CHECK FOR CONTINUITY BETWEEN PLUG PINS X AND K WHEN **SEARCH LIGHT** SW SET TO **RETRACT** IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRE W696-26-20 BETWEEN SEARCHLIGHT AND THRUST GRIP RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE LANDING LIGHT
YES
REPLACE LANDING LIGHT
NO
REPLACE LANDING LIGHT
NO
REPLACE PLT THRUST GRIP

COPILOT'S LANDING LIGHT DOES NOT RETRACT OR DOES NOT FULLY RETRACT INTO HOUSING


DID LANDING LIGHT RETRACT AT ALL?
NO
DID **SLT CONT** CB OPEN?
NO
SET **CO-PLT SLT CONT** SW OR **CPLT SRCHLT CONTR** SW TO **RETR** DOES LANDING LIGHT RETRACT?
YES
DISCONNECT CPLT THRUST GRIP PLUG. CHECK FOR CONTINUITY BETWEEN PLUG PINS X AND K WHEN **SEARCH LIGHT** SW SET TO **RETRACT** IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRE W696-37-20 BETWEEN SEARCHLIGHT AND THRUST GRIP RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE LANDING LIGHT
YES
REPLACE LANDING LIGHT
NO
REPLACE LANDING LIGHT
NO
REPLACE CPLT THRUST GRIP

END OF TASK

9-4.11 PILOT'S LANDING LIGHT DOES NOT COME ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

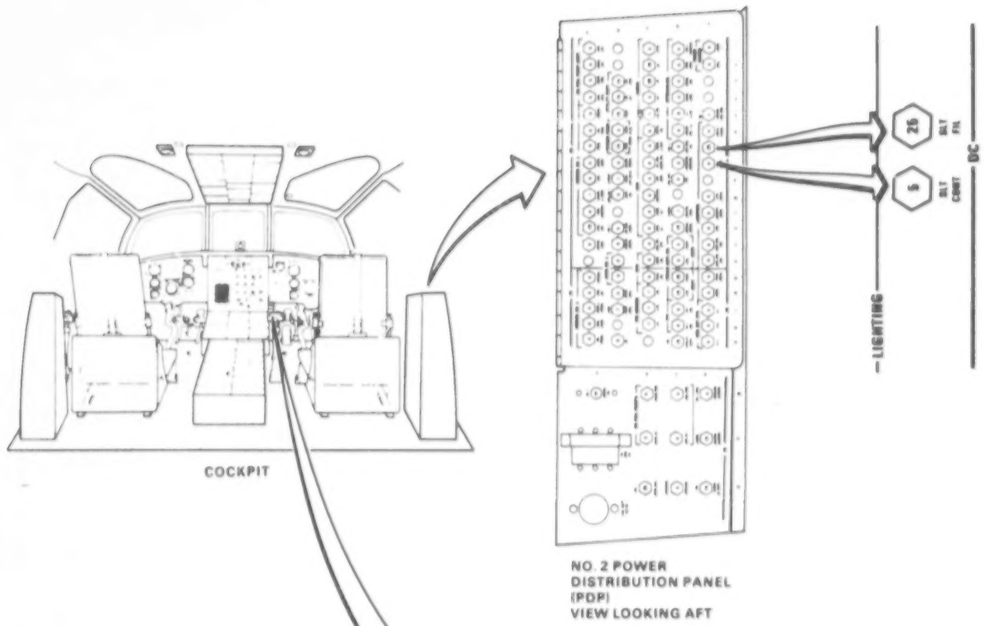
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

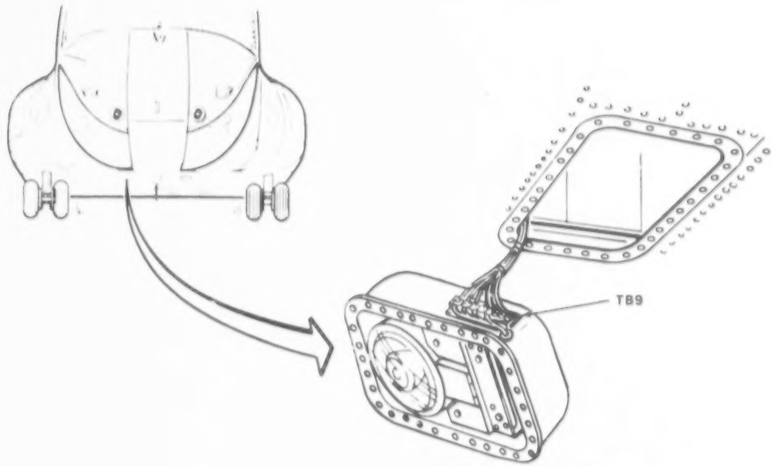
Materials:
None

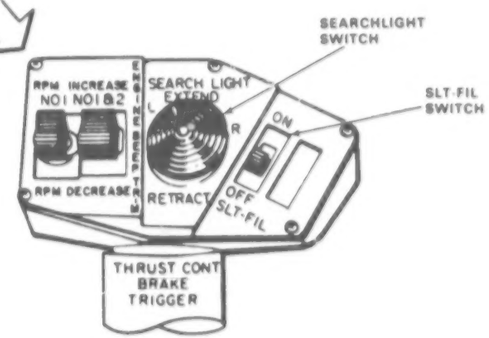
Personnel Required:
68F20 Aircraft Electrician
68F10 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off







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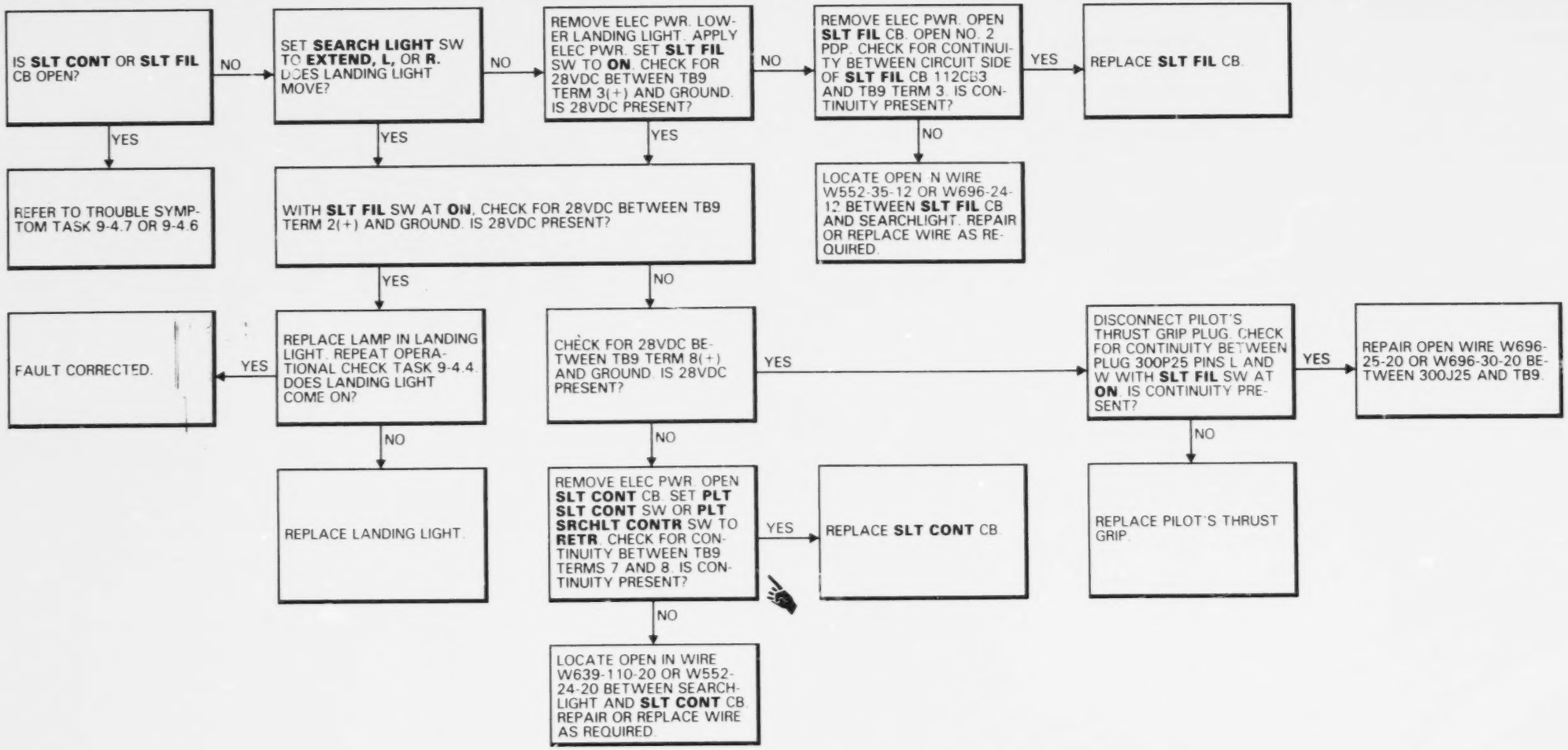
9-4.11 PILOT'S LANDING LIGHT DOES NOT COME ON (Continued)


IS SLT CONT OR SLT FIL CB OPEN?
NO
YES
REFER TO TROUBLE SYMPTOM TASK 9-4.7 OR 9-4.6
SET SEARCH LIGHT SW TO EXTEND, L, OR R. DOES LANDING LIGHT MOVE?
NO
YES
REMOVE ELEC PWR. LOWER LANDING LIGHT. APPLY ELEC PWR. SET SLT FIL SW TO ON. CHECK FOR 28VDC BETWEEN TB9 TERM 3(+) AND GROUND. IS 28VDC PRESENT?
NO
YES
REMOVE ELEC PWR. OPEN SLT FIL CB. OPEN NO. 2 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF SLT FIL CB 112CB3 AND TB9 TERM 3. IS CONTINUITY PRESENT?
YES
REPLACE SLT FIL CB.
NO
LOCATE OPEN N WIRE W552-35-12 OR W696-24-12 BETWEEN SLT FIL CB AND SEARCHLIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.
WITH SLT FIL SW AT ON, CHECK FOR 28VDC BETWEEN TB9 TERM 2(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
FAULT CORRECTED.
YES
REPLACE LAMP IN LANDING LIGHT. REPEAT OPERATIONAL CHECK TASK 9-4.4. DOES LANDING LIGHT COME ON?
NO
REPLACE LANDING LIGHT.
CHECK FOR 28VDC BETWEEN TB9 TERM 8(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
REMOVE ELEC PWR. OPEN SLT CONT CB. SET PLT SLT CONT SW OR PLT SRCHLT CONTR SW TO RETR. CHECK FOR CONTINUITY BETWEEN TB9 TERMS 7 AND 8. IS CONTINUITY PRESENT?
YES
REPLACE SLT CONT CB.
NO
LOCATE OPEN IN WIRE W639-110-20 OR W552-24-20 BETWEEN SEARCHLIGHT AND SLT CONT CB. REPAIR OR REPLACE WIRE AS REQUIRED.
DISCONNECT PILOT'S THRUST GRIP PLUG. CHECK FOR CONTINUITY BETWEEN PLUG 300P25 PINS L AND W WITH SLT FIL SW AT ON. IS CONTINUITY PRESENT?
YES
REPAIR OPEN WIRE W696-25-20 OR W696-30-20 BETWEEN 300J25 AND TB9.
NO
REPLACE PILOT'S THRUST GRIP.

END OF TASK

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9-4.12 PILOT'S LANDING LIGHT WILL NOT RETRACT WITH PLT SLT CONT SWITCH 9-4.12

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off

SET **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW TO **ON**. SET **SEARCH LIGHT** SW TO **RETRACT**. DOES SEARCHLIGHT RETRACT?

NO → REFER TO TROUBLE SYMPTOM TASK 9-4.10.

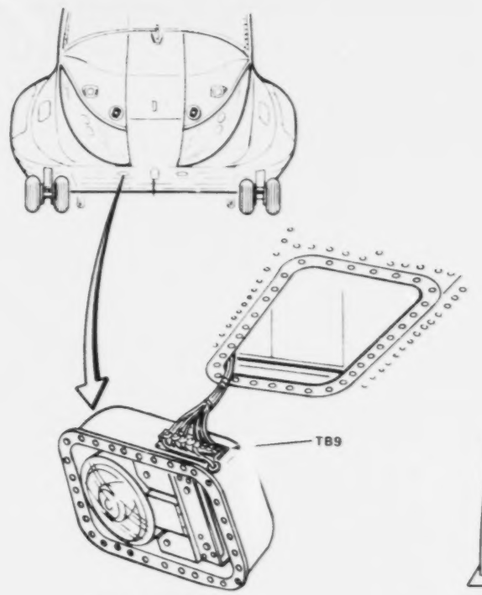
YES

REMOVE ELEC PWR. OPEN **SLT CONT** CB. SET **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW TO **RETR**. LOWER **LIGHTING** OR **PLT LTG** PNL FROM OVHD PNL. CHECK CONTINUITY BETWEEN **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW TERMS 1 AND 2. IS CONTINUITY PRESENT?

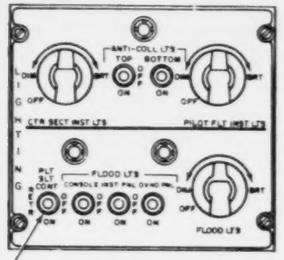
NO → REPLACE **PLT SLT CONT** SW OR **PLT SRCHLT CONTR** SW.

YES

LOWER PILOT'S LANDING LIGHT. LOCATE OPEN IN WIRE W559-61-20 OR W639-113-20 BETWEEN SW AND TB9. REPAIR OR REPLACE WIRE AS REQUIRED.

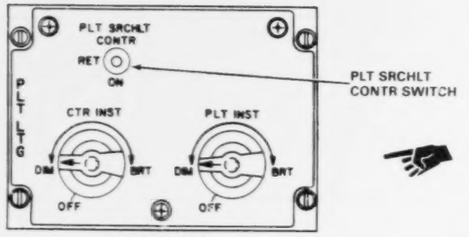


PILOT'S LANDING LIGHT



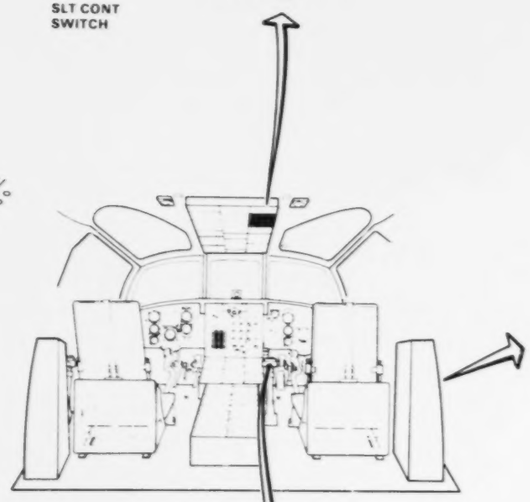
LIGHTING PANEL WITHOUT 17

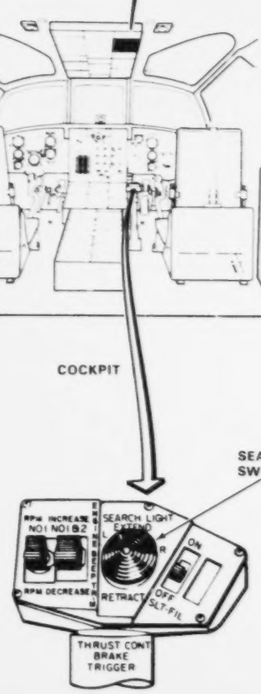
PLT SLT CONT SWITCH



PLT SRCHLT CONTR SWITCH

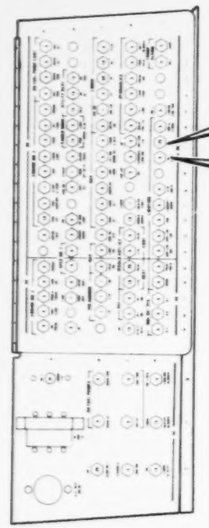
PLT LTG PANEL WITH 17

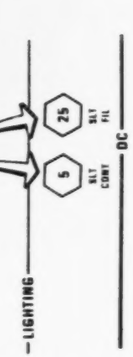

COCKPIT



SEARCHLIGHT SWITCH

THRUST GRIP


NO. 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT



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END OF TASK

9-4.13 COPILOT'S LANDING LIGHT DOES NOT EXTEND OR DOES NOT FULLY EXTEND 9-4.13

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

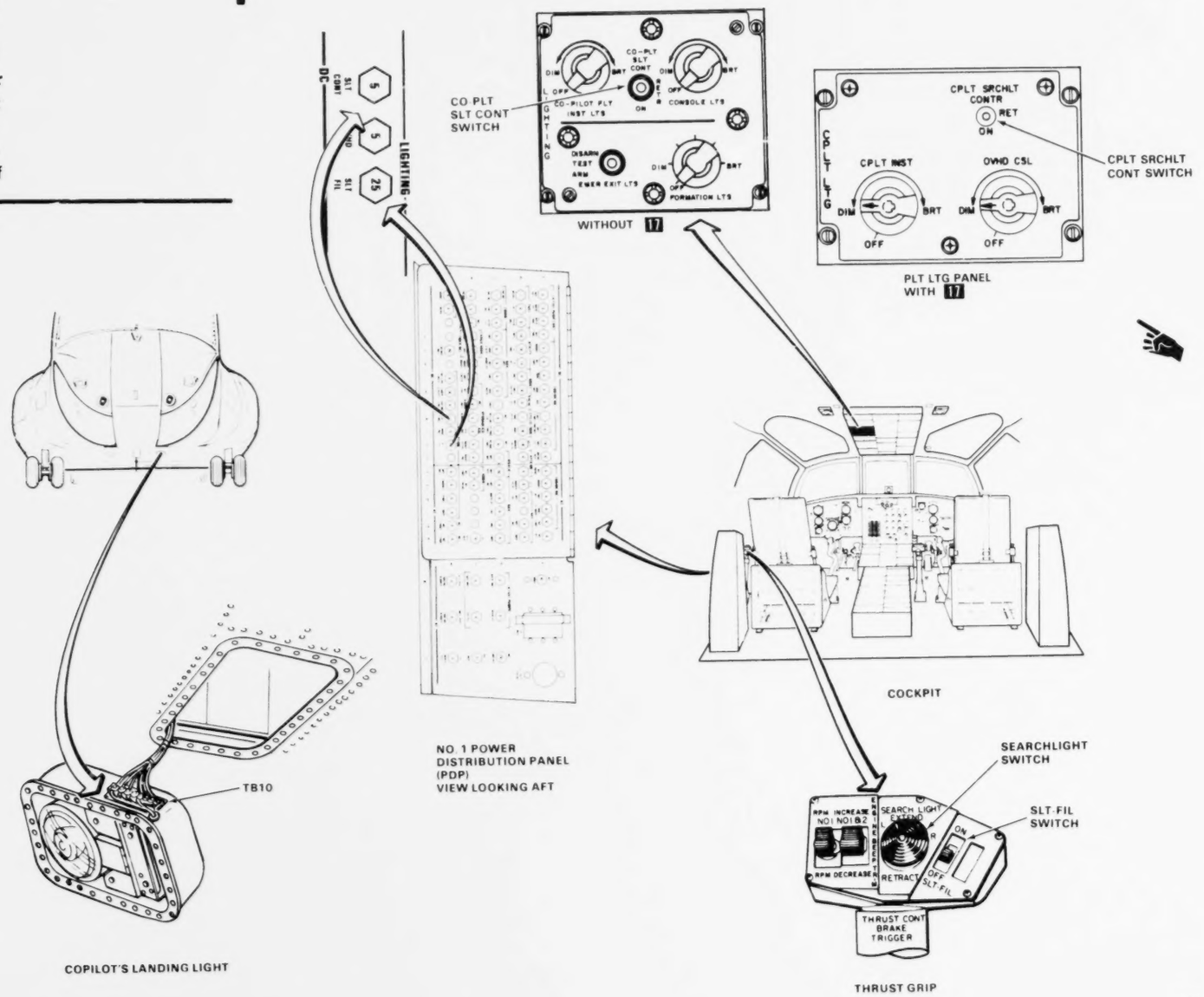
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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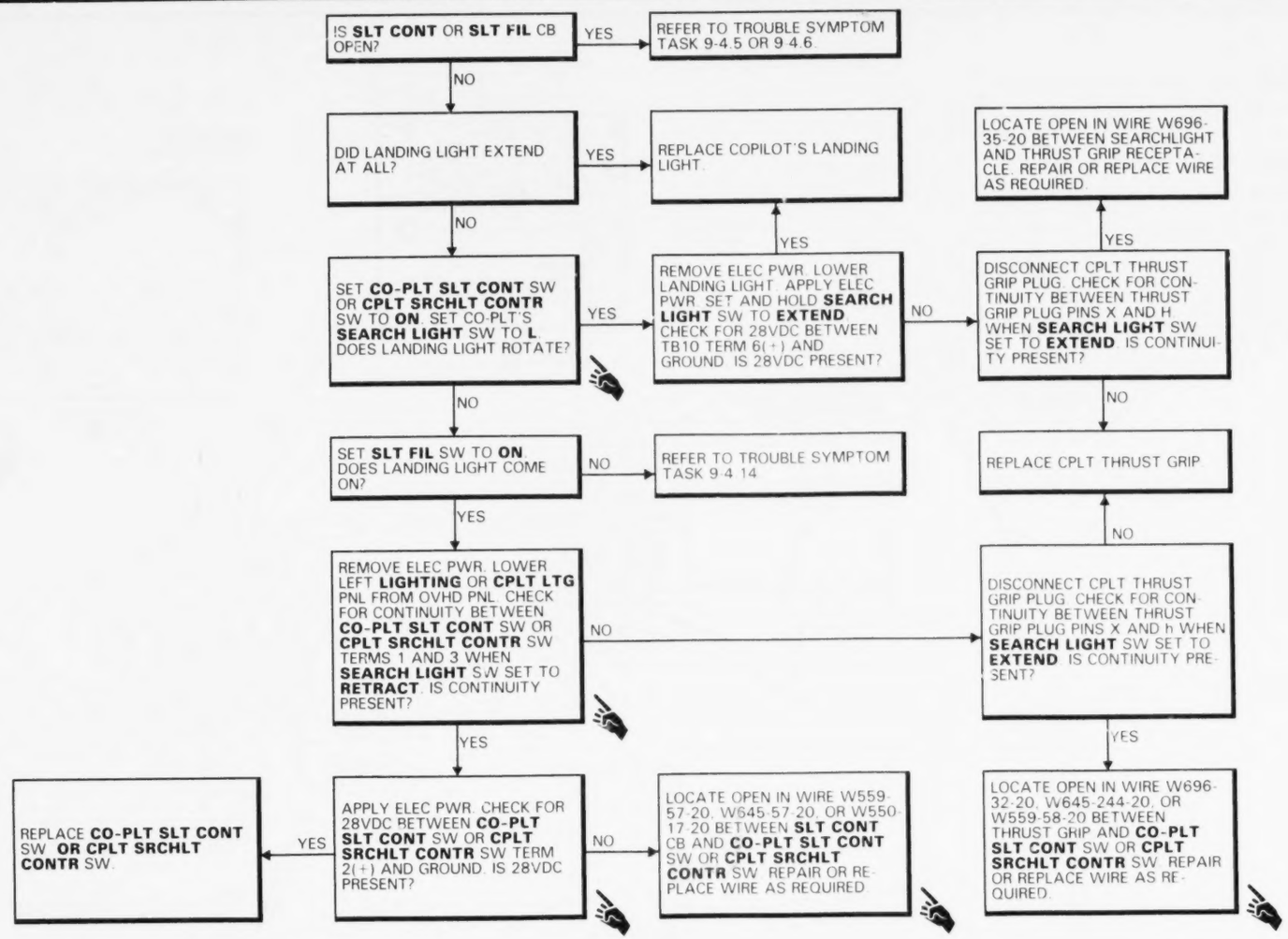

IS SLT CONT OR SLT FIL CB OPEN?
YES
REFER TO TROUBLE SYMPTOM TASK 9-4.5 OR 9-4.6.
NO
DID LANDING LIGHT EXTEND AT ALL?
YES
REPLACE COPILOT'S LANDING LIGHT.
NO
SET CO-PLT SLT CONT SW OR CPLT SRCHLT CONTR SW TO ON. SET CO-PLT'S SEARCH LIGHT SW TO L. DOES LANDING LIGHT ROTATE?
YES
REMOVE ELEC PWR. LOWER LANDING LIGHT. APPLY ELEC PWR. SET AND HOLD SEARCH LIGHT SW TO EXTEND. CHECK FOR 28VDC BETWEEN TB10 TERM 6(+) AND GROUND. IS 28VDC PRESENT?
NO
DISCONNECT CPLT THRUST GRIP PLUG. CHECK FOR CONTINUITY BETWEEN THRUST GRIP PLUG PINS X AND H WHEN SEARCH LIGHT SW SET TO EXTEND. IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRE W696-35-20 BETWEEN SEARCHLIGHT AND THRUST GRIP RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
SET SLT FIL SW TO ON. DOES LANDING LIGHT COME ON?
NO
REFER TO TROUBLE SYMPTOM TASK 9-4.14.
YES
REMOVE ELEC PWR. LOWER LEFT LIGHTING OR CPLT LTG PNL FROM OVHD PNL. CHECK FOR CONTINUITY BETWEEN CO-PLT SLT CONT SW OR CPLT SRCHLT CONTR SW TERMS 1 AND 3 WHEN SEARCH LIGHT SW SET TO RETRACT. IS CONTINUITY PRESENT?
NO
REPLACE CPLT THRUST GRIP.
NO
DISCONNECT CPLT THRUST GRIP PLUG. CHECK FOR CONTINUITY BETWEEN THRUST GRIP PLUG PINS X AND h WHEN SEARCH LIGHT SW SET TO EXTEND. IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRE W696-32-20, W645-244-20, OR W559-58-20 BETWEEN THRUST GRIP AND CO-PLT SLT CONT SW OR CPLT SRCHLT CONTR SW. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
APPLY ELEC PWR. CHECK FOR 28VDC BETWEEN CO-PLT SLT CONT SW OR CPLT SRCHLT CONTR SW TERM 2(+) AND GROUND. IS 28VDC PRESENT?
YES
REPLACE CO-PLT SLT CONT SW OR CPLT SRCHLT CONTR SW.
NO
LOCATE OPEN IN WIRE W559-57-20, W645-57-20, OR W550-17-20 BETWEEN SLT CONT CB AND CO-PLT SLT CONT SW OR CPLT SRCHLT CONTR SW. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-4.14 COPILOT'S LANDING LIGHT DOES NOT COME ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

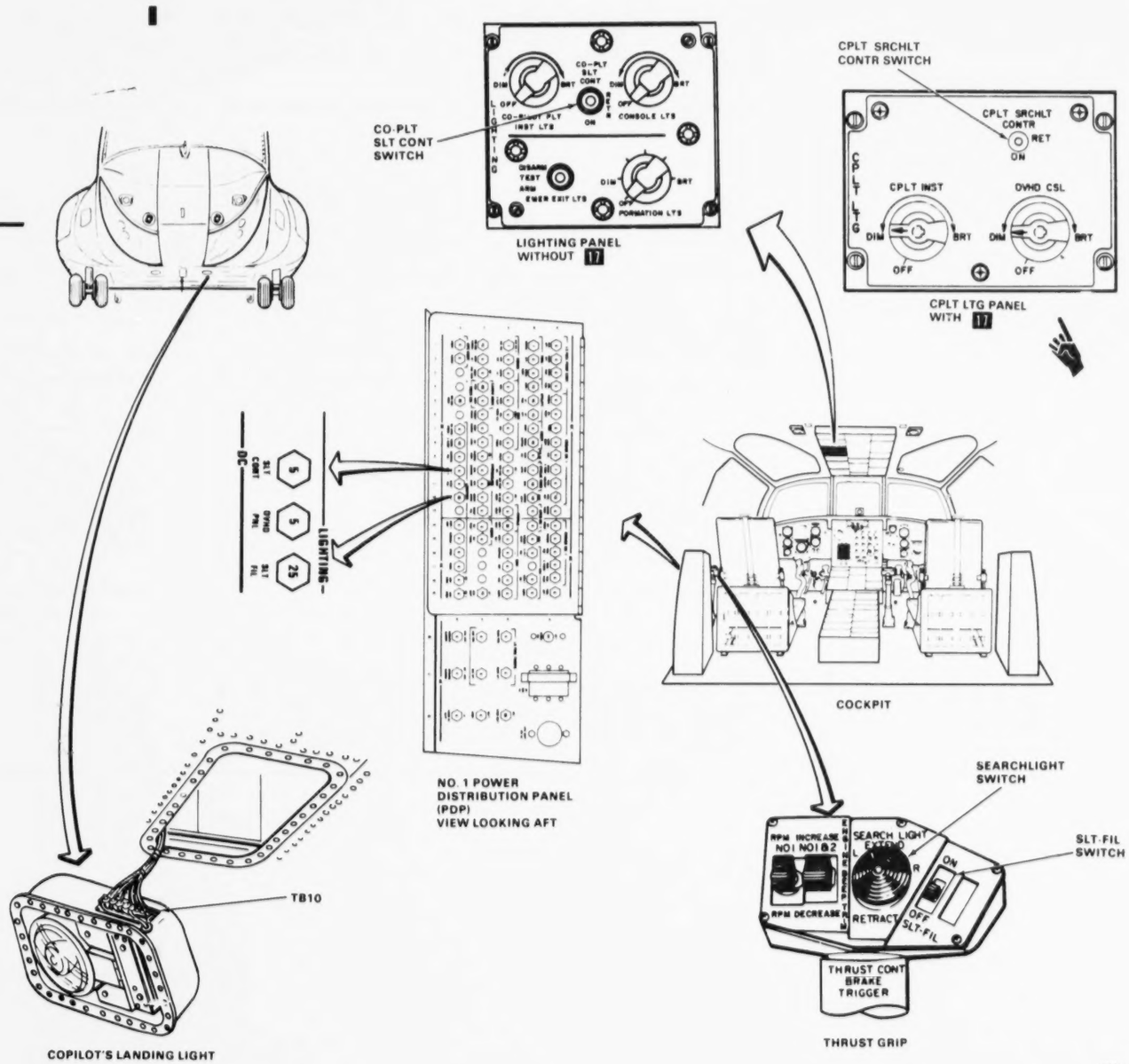
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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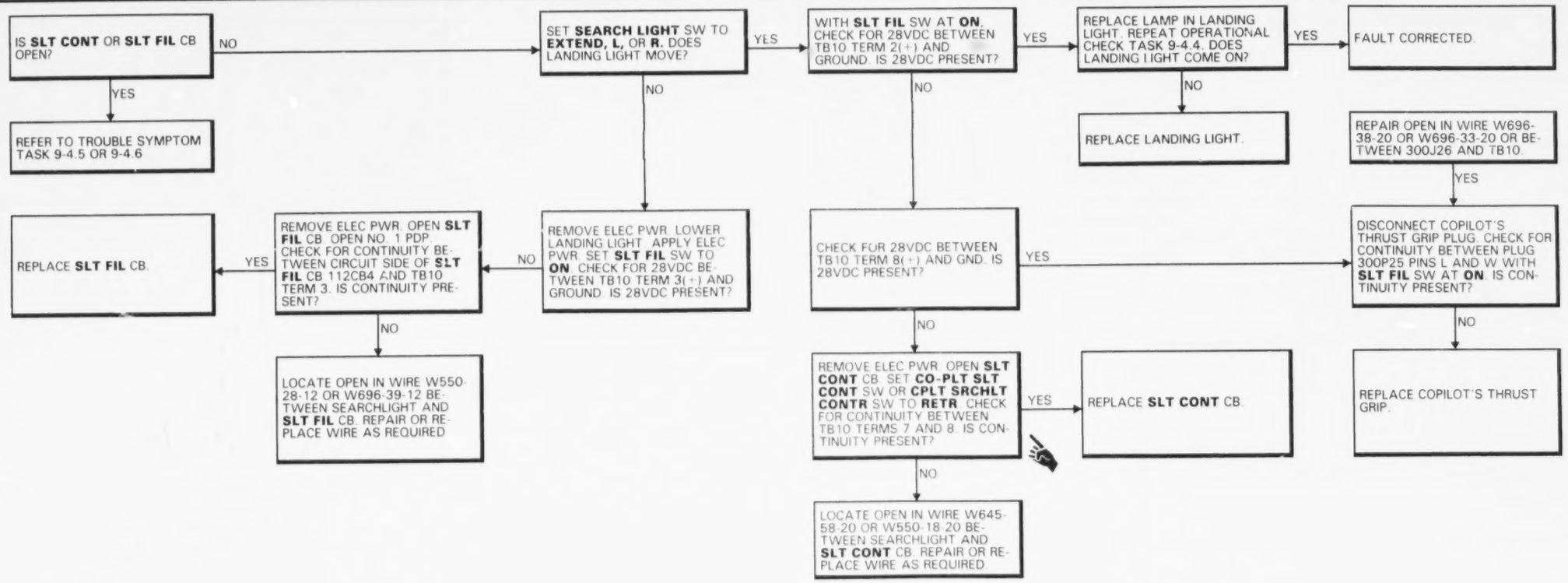
9-4.14 COPILOT'S LANDING LIGHT DOES NOT COME ON (Continued)


IS SLT CONT OR SLT FIL CB OPEN?
NO
YES
REFER TO TROUBLE SYMPTOM TASK 9-4.5 OR 9-4.6
SET SEARCH LIGHT SW TO EXTEND, L, OR R. DOES LANDING LIGHT MOVE?
YES
NO
WITH SLT FIL SW AT ON, CHECK FOR 28VDC BETWEEN TB10 TERM 2(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
REPLACE LAMP IN LANDING LIGHT. REPEAT OPERATIONAL CHECK TASK 9-4.4. DOES LANDING LIGHT COME ON?
YES
NO
FAULT CORRECTED.
REPLACE LANDING LIGHT.
REPAIR OPEN IN WIRE W696-38-20 OR W696-33-20 OR BETWEEN 300J26 AND TB10.
YES
REMOVE ELEC PWR. LOWER LANDING LIGHT. APPLY ELEC PWR. SET SLT FIL SW TO ON. CHECK FOR 28VDC BETWEEN TB10 TERM 3(+) AND GROUND. IS 28VDC PRESENT?
NO
REMOVE ELEC PWR. OPEN SLT FIL CB. OPEN NO. 1 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF SLT FIL CB 112CB4 AND TB10 TERM 3. IS CONTINUITY PRESENT?
YES
NO
REPLACE SLT FIL CB.
LOCATE OPEN IN WIRE W550-28-12 OR W696-39-12 BETWEEN SEARCHLIGHT AND SLT FIL CB. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR 28VDC BETWEEN TB10 TERM 8(+) AND GND. IS 28VDC PRESENT?
YES
NO
DISCONNECT COPILOT'S THRUST GRIP PLUG. CHECK FOR CONTINUITY BETWEEN PLUG 300P25 PINS L AND W WITH SLT FIL SW AT ON. IS CONTINUITY PRESENT?
NO
REPLACE COPILOT'S THRUST GRIP.
REMOVE ELEC PWR. OPEN SLT CONT CB. SET CO-PLT SLT CONT SW OR CPLT SRCHLT CONTR SW TO RETR. CHECK FOR CONTINUITY BETWEEN TB10 TERMS 7 AND 8. IS CONTINUITY PRESENT?
YES
NO
REPLACE SLT CONT CB.
LOCATE OPEN IN WIRE W645-58-20 OR W550-18-20 BETWEEN SEARCHLIGHT AND SLT CONT CB. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-4.15 COPILOT'S LANDING LIGHT WILL NOT RETRACT WITH CO-PLT SLT CONT SWITCH

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off

SET **CO-PLT SLT CONT** SW OR **CPLT SRCHLT CONTR** SW TO **ON**. SET **SEARCH LIGHT** SW TO **RETRACT**. DOES LANDING LIGHT RETRACT?

NO → REFER TO TROUBLE SYMPTOM TASK 9-4.10.

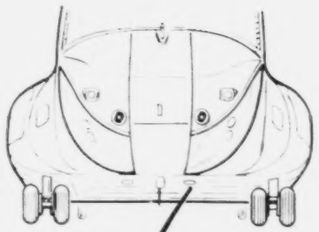
YES ↓

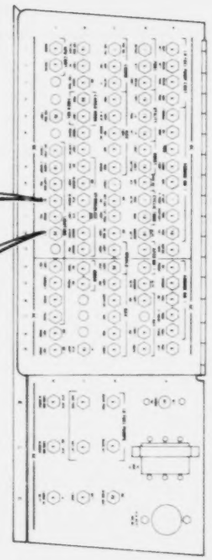
REMOVE ELEC PWR. OPEN **SLT CONT** CB. SET **CO-PLT SLT CONT** SW OR **CPLT SRCHLT CONTR** SW TO **RETR**. LOWER **LIGHTING** OR **CPLT LTG** PNL FROM OVHD PNL. CHECK CONTINUITY BETWEEN **CO-PLT SLT CONT** SW OR **CPLT SRCHLT CONTR** SW TERMS 1 AND 2. IS CONTINUITY PRESENT?

NO → REPLACE **CO-PLT SLT CONT** SW OR **CPLT SRCHLT CONTR** SW.

YES ↓

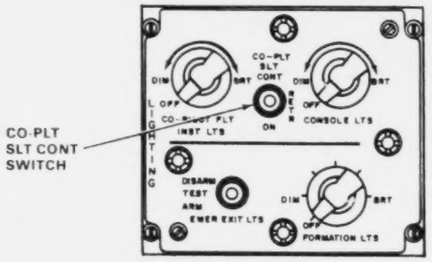
LOWER COPILOT'S LANDING LIGHT. LOCATE OPEN IN WIRE W559-59-20 OR W645-245-20 BETWEEN SW AND TB10. REPAIR OR REPLACE WIRE AS REQUIRED.





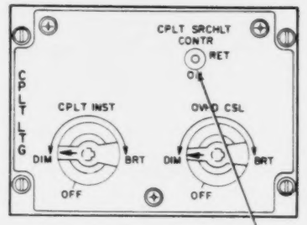
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT

COPILOT'S LANDING LIGHT



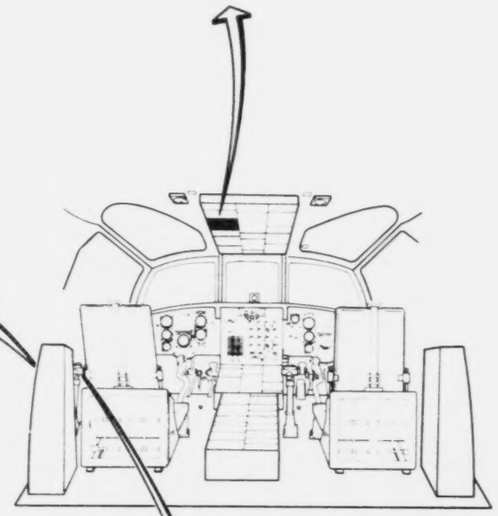
CO-PLT SLT CONT SWITCH

LIGHTING PANEL

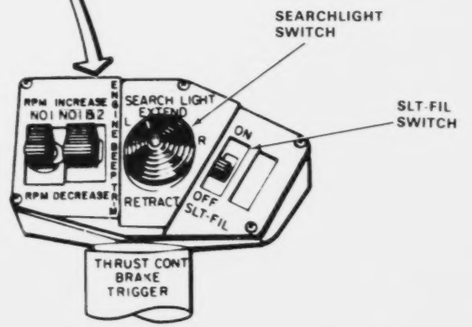


CPLT LTG PANEL

CPLT SRCHLT CONTR SWITCH



COCKPIT

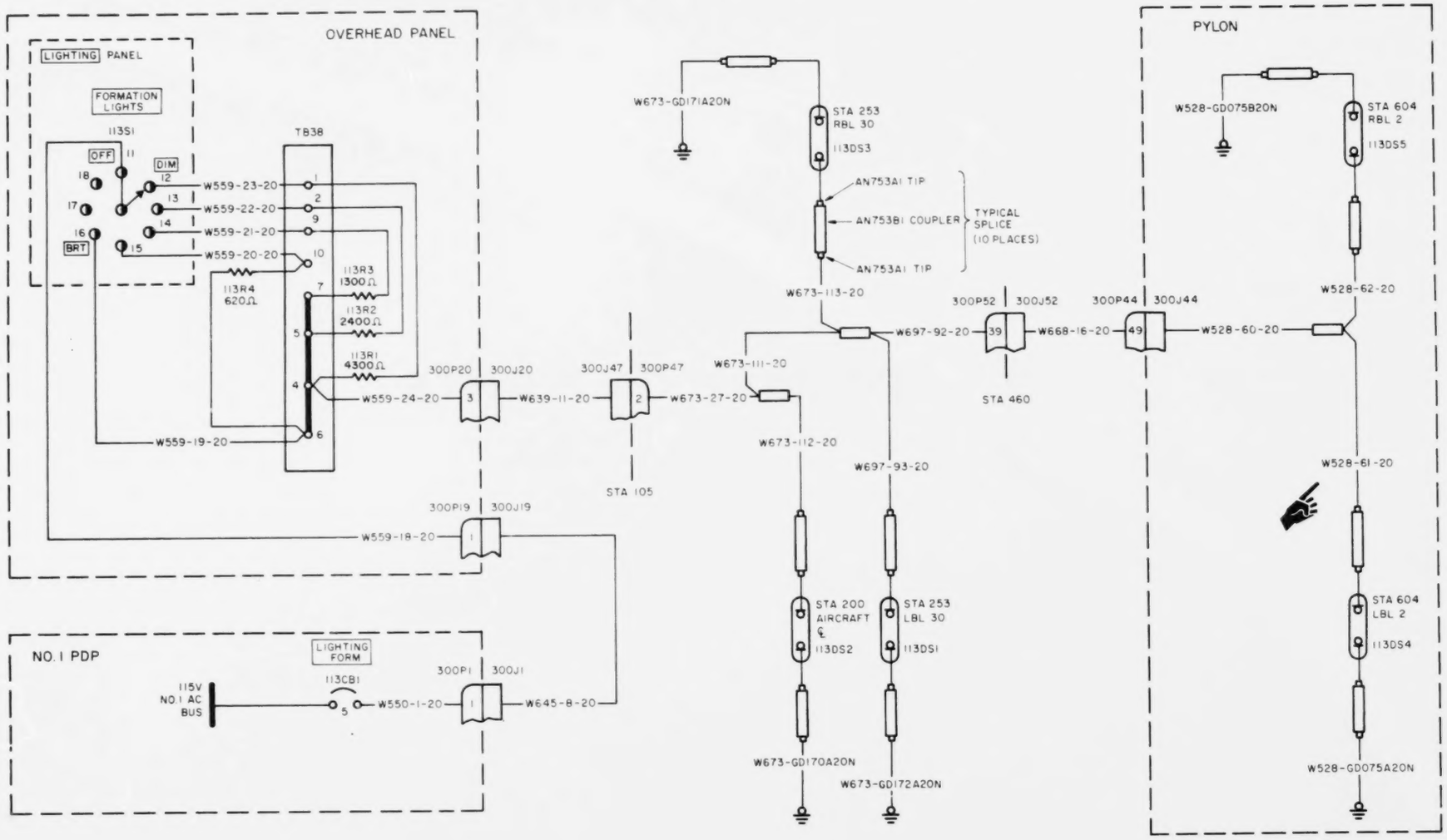


THRUST GRIP

10333

END OF TASK

9-5 FORMATION LIGHTS


OVERHEAD PANEL
LIGHTING PANEL
FORMATION LIGHTS
113S1
OFF
DIM
BRT
T838
W559-23-20
W559-22-20
W559-21-20
W559-20-20
113R4 620Ω
113R3 1300Ω
113R2 2400Ω
113R1 4300Ω
W559-24-20
W559-19-20
W559-18-20
300P20
300J20
300J47
300P47
W639-11-20
W673-27-20
STA 105
300P19
300J19
NO.1 PDP
LIGHTING FORM
113CB1
115V NO.1 AC BUS
W550-1-20
300P1
300J1
W645-8-20
W673-GD171A20N
STA 253 RBL 30
113DS3
AN753A1 TIP
AN753B1 COUPLER
AN753A1 TIP
TYPICAL SPLICE (10 PLACES)
W673-113-20
W673-111-20
W673-112-20
W697-92-20
W697-93-20
300P52
300J52
STA 460
300P44
300J44
W668-16-20
W528-60-20
W528-62-20
STA 200 AIRCRAFT
113DS2
STA 253 LBL 30
113DS1
W673-GD170A20N
W673-GD172A20N
PYLON
W528-GD075B20N
STA 604 RBL 2
113DS5
W528-61-20
STA 604 LBL 2
113DS4
W528-GD075A20N
113.100
1982

9-5.2 FORMATION LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

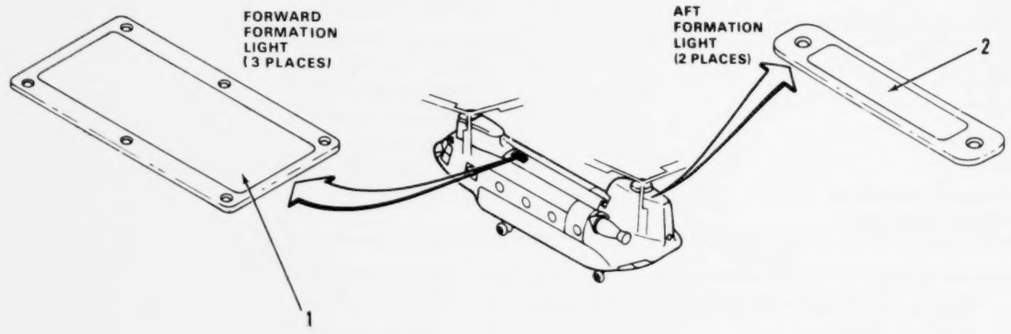
Personnel Required:
Aircraft Electrician

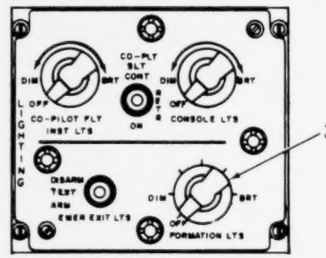
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

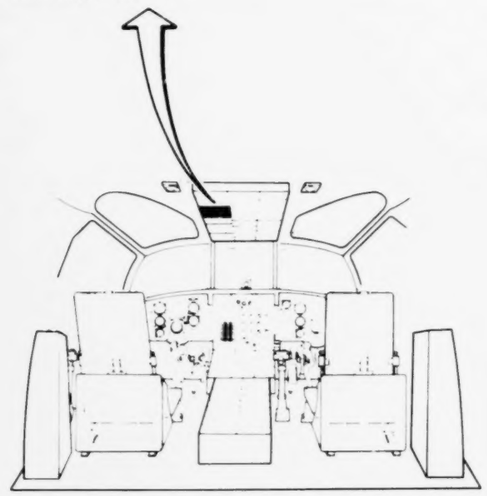
TASK	RESULT
1. **Check three forward formation lights (1).**	If any light (1) is loose, cracked, or burnt, tighten or replace it as required. **NOTE** Slight discoloration of light face is normal.
2. **Check two aft formation lights (2).**	If any light (2) is loose, cracked, or burnt, tighten or replace it as required.
3. **Check FORMATION LTS control (3).**	If control (3) is loose or damaged, tighten or replace it as required.

FOLLOW-ON MAINTENANCE:
None





LIGHTING PANEL


COCKPIT

DI45-3140-SFA

END OF TASK

9-5.3 FORMATION LIGHTS OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
None

Materials:
None

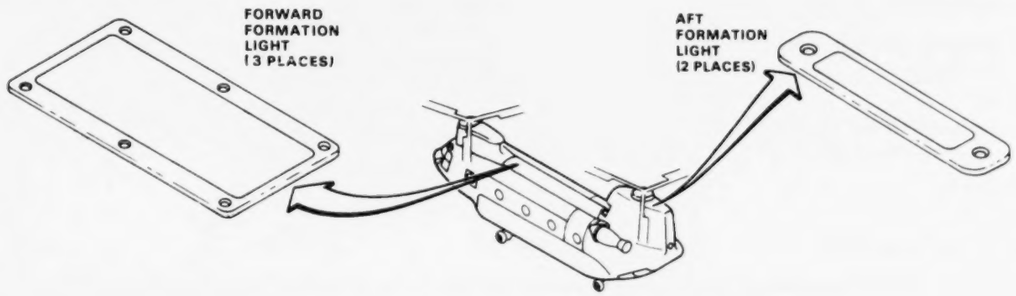
Personnel Required:
Aircraft Electrician (2)

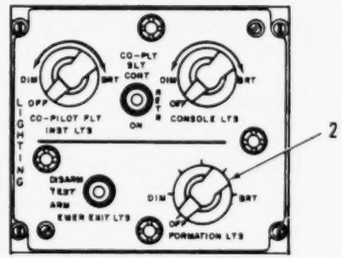
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Visual Check of Formation Lights Performed (Task 9-5.2)

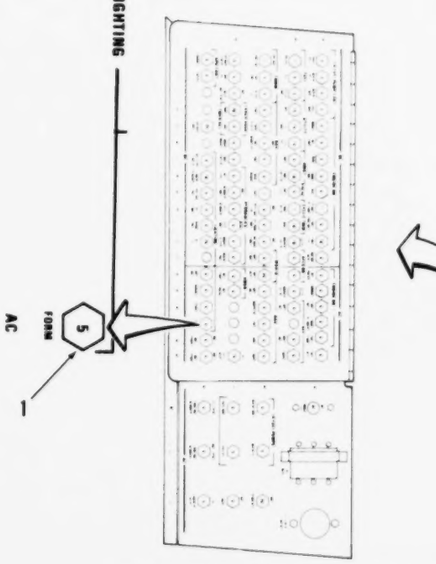
TASK	RESULT
1. **Check** that **LIGHTING FORM circuit breaker (1)** is closed.	If FORM circuit breaker (1) is open, close it. If it opens again, go to task 9-5.4.
2. **Set FORMATION LTS switch (2) to DIM.**	Five formation lights shall come on dim. If any light is not on, go to task 9-5.5.
3. **Rotate FORMATION LTS switch (2) through intermediate positions to BRT.**	Five formation lights shall get brighter as switch is turned to right. If lights go out or brightness does not increase, go to task 9-5.6.
4. Set FORMATION LTS switch (2) to OFF.	Five formation lights shall go out.

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Electrical Power Off
Battery Disconnected

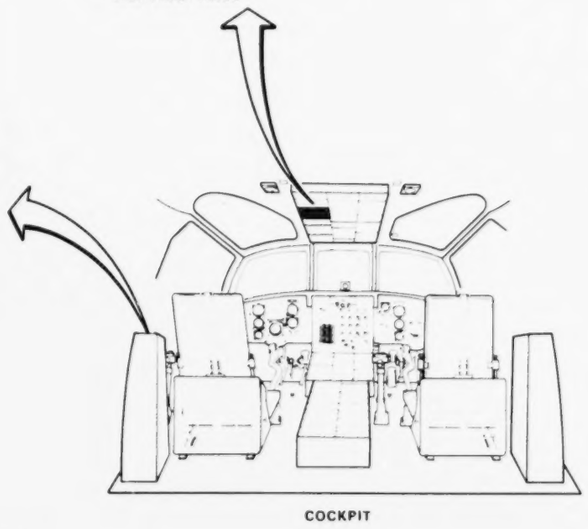




LIGHTING PANEL



NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT


COCKPIT

DI45-5141-SP4

END OF TASK

9-5.4 FORM CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

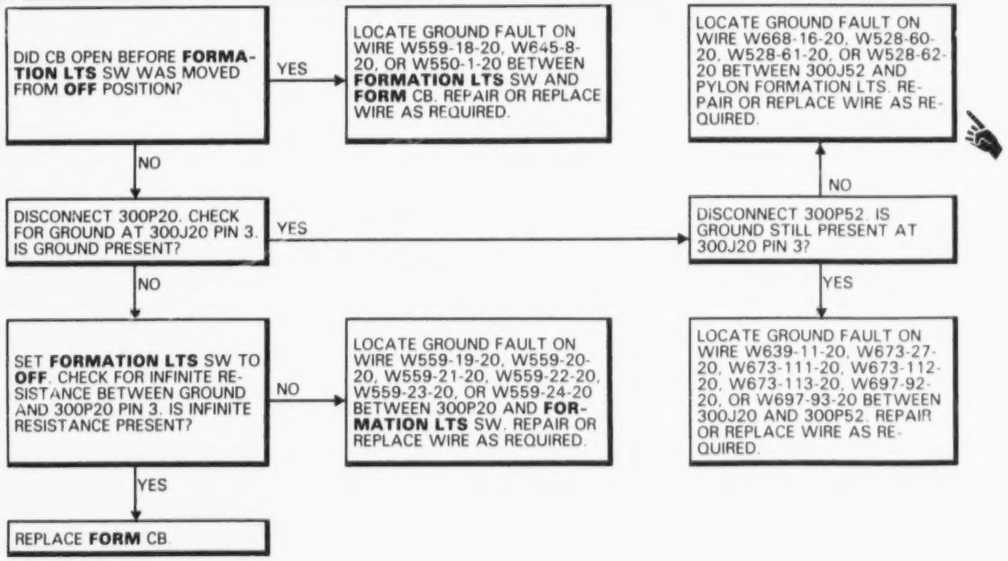
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

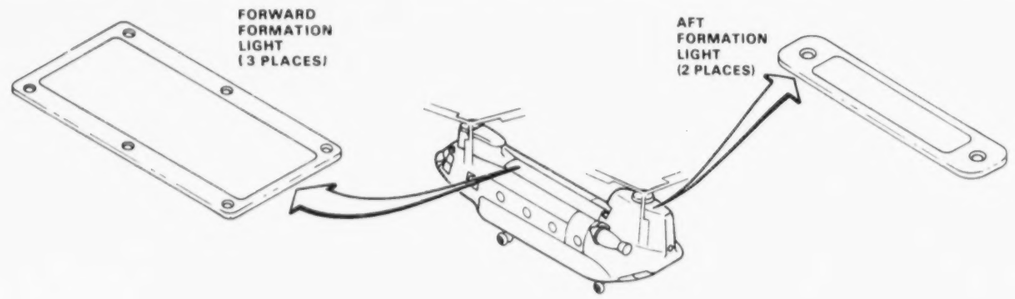
Materials:
None

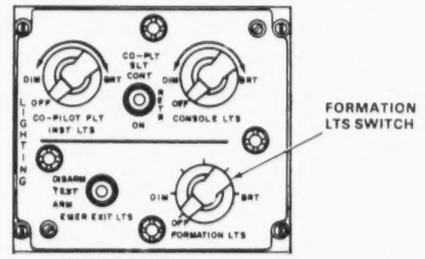
Personnel Required:
Aircraft Electrician

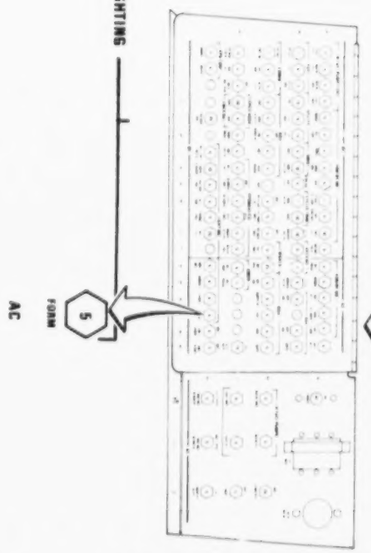
References:
TM 55-1520-240-23

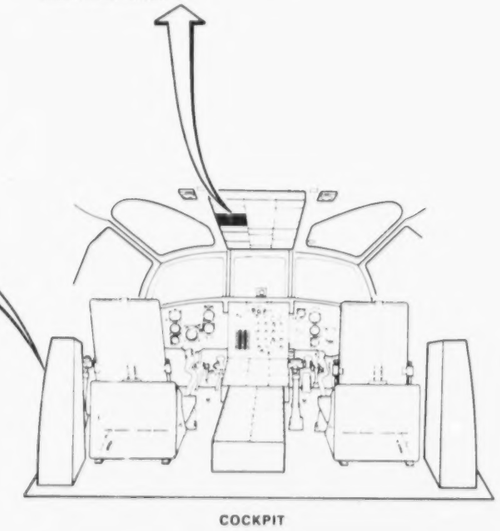
Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off


DID CB OPEN BEFORE FORMATION LTS SW WAS MOVED FROM OFF POSITION?
YES
LOCATE GROUND FAULT ON WIRE W559-18-20, W645-8-20, OR W550-1-20 BETWEEN FORMATION LTS SW AND FORM CB. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE GROUND FAULT ON WIRE W668-16-20, W528-60-20, W528-61-20, OR W528-62-20 BETWEEN 300J52 AND PYLON FORMATION LTS. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
DISCONNECT 300P20. CHECK FOR GROUND AT 300J20 PIN 3. IS GROUND PRESENT?
YES
DISCONNECT 300P52. IS GROUND STILL PRESENT AT 300J20 PIN 3?
NO
YES
SET FORMATION LTS SW TO OFF. CHECK FOR INFINITE RESISTANCE BETWEEN GROUND AND 300P20 PIN 3. IS INFINITE RESISTANCE PRESENT?
NO
LOCATE GROUND FAULT ON WIRE W559-19-20, W559-20-20, W559-21-20, W559-22-20, W559-23-20, OR W559-24-20 BETWEEN 300P20 AND FORMATION LTS SW. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE GROUND FAULT ON WIRE W639-11-20, W673-27-20, W673-111-20, W673-112-20, W673-113-20, W697-92-20, OR W697-93-20 BETWEEN 300J20 AND 300P52. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE FORM CB









DI45 5142 SPA

END OF TASK

9-5.5 FORMATION LIGHT OR LIGHTS NOT ON AT DIM

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

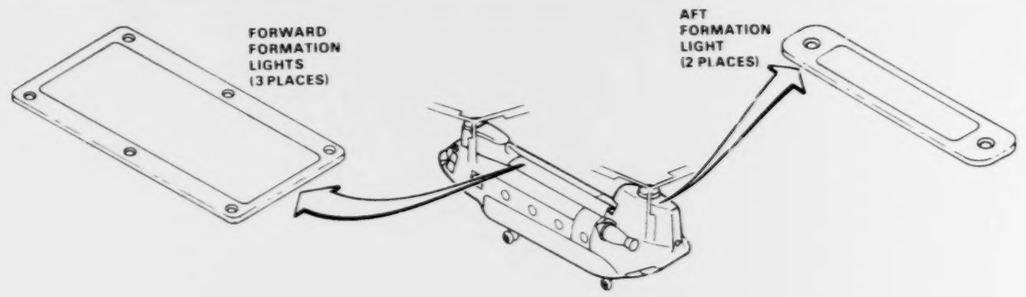
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

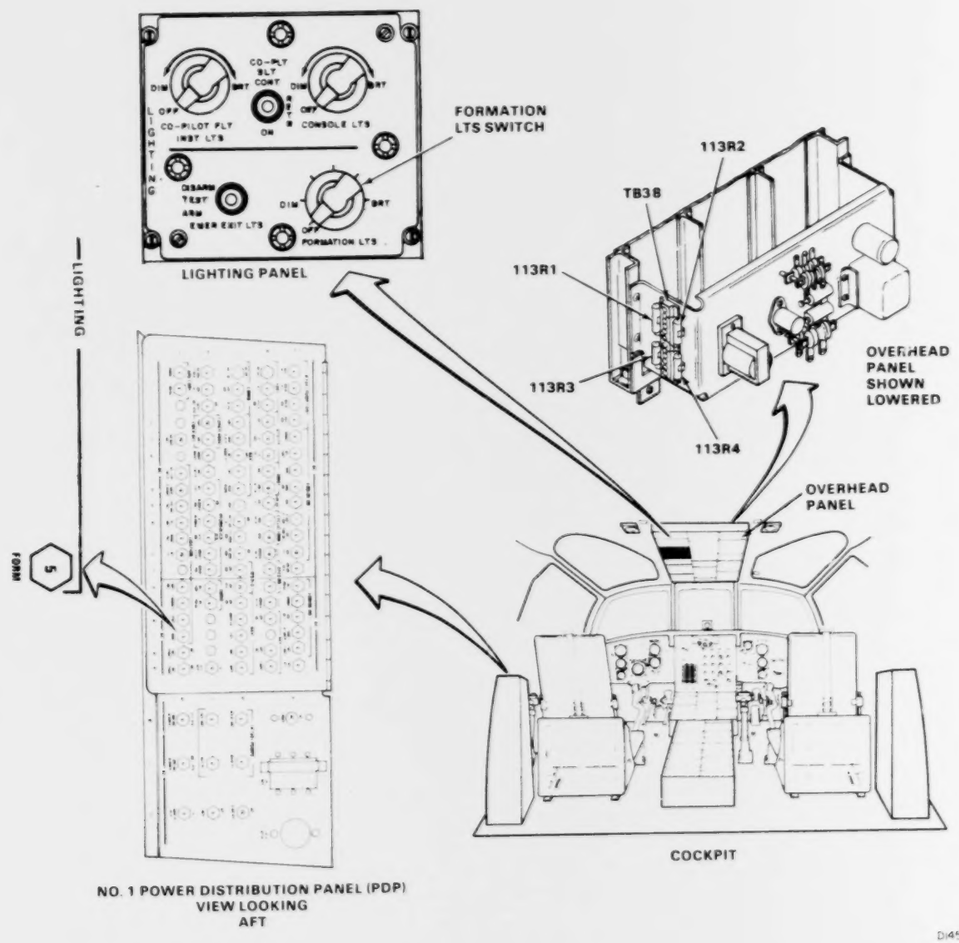
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off





DI45-3143-SPA

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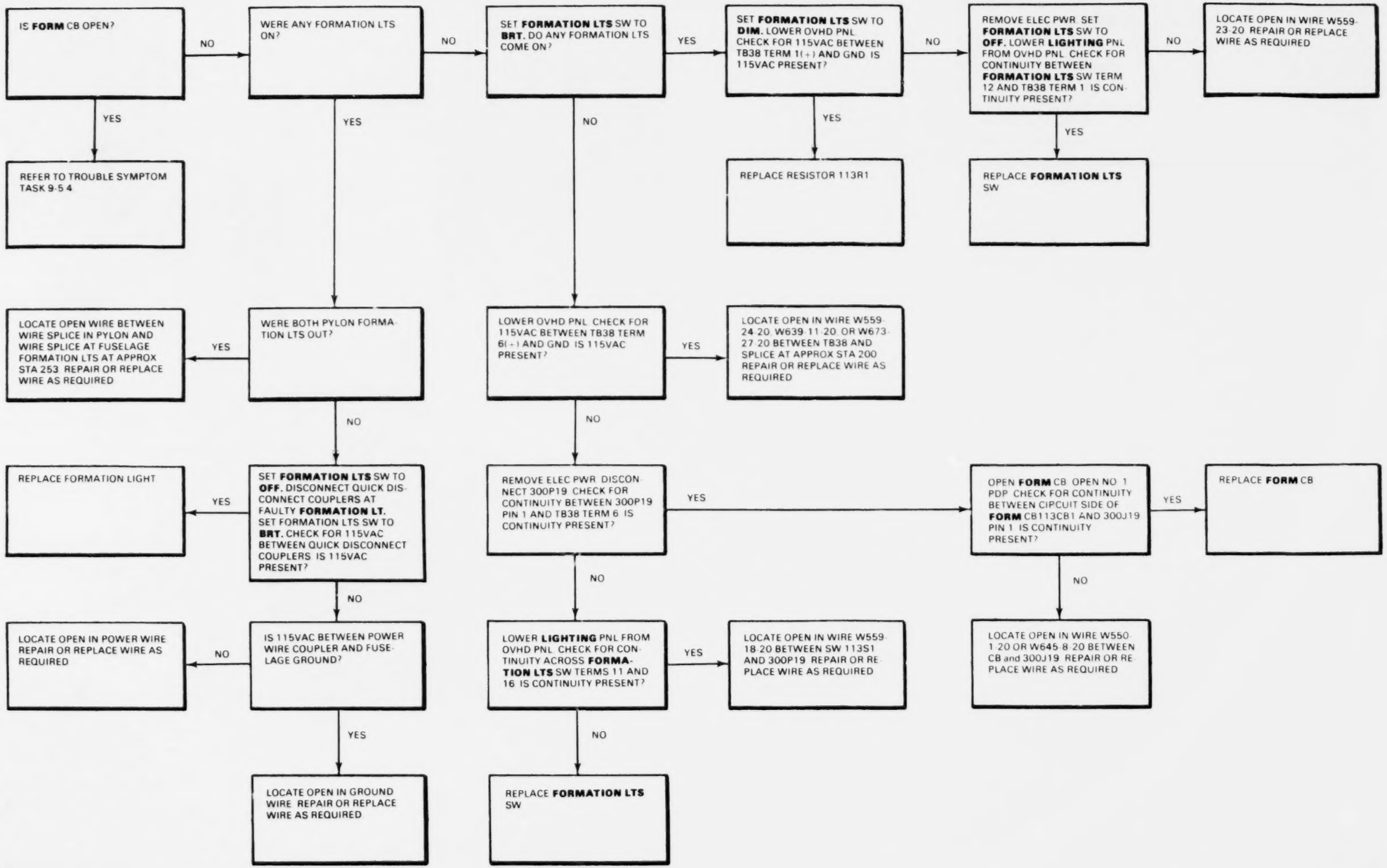
9-5.5 FORMATION LIGHT OR LIGHTS NOT ON AT DIM (Continued)


IS **FORM** CB OPEN?
NO
YES
REFER TO TROUBLE SYMPTOM TASK 9-5.4
WERE ANY FORMATION LTS ON?
NO
YES
WERE BOTH PYLON FORMATION LTS OUT?
YES
LOCATE OPEN WIRE BETWEEN WIRE SPLICE IN PYLON AND WIRE SPLICE AT FUSELAGE FORMATION LTS AT APPROX STA 253. REPAIR OR REPLACE WIRE AS REQUIRED
NO
SET **FORMATION LTS** SW TO **OFF**. DISCONNECT QUICK DISCONNECT COUPLERS AT FAULTY **FORMATION LT**. SET FORMATION LTS SW TO **BRT**. CHECK FOR 115VAC BETWEEN QUICK DISCONNECT COUPLERS. IS 115VAC PRESENT?
YES
REPLACE FORMATION LIGHT
NO
IS 115VAC BETWEEN POWER WIRE COUPLER AND FUSELAGE GROUND?
NO
LOCATE OPEN IN POWER WIRE REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE OPEN IN GROUND WIRE. REPAIR OR REPLACE WIRE AS REQUIRED
SET **FORMATION LTS** SW TO **BRT**. DO ANY FORMATION LTS COME ON?
YES
NO
LOWER OVHD PNL. CHECK FOR 115VAC BETWEEN TB38 TERM 6(+) AND GND. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRE W559-24-20, W639-11-20, OR W673-27-20 BETWEEN TB38 AND SPLICE AT APPROX STA 200. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REMOVE ELEC PWR. DISCONNECT 300P19. CHECK FOR CONTINUITY BETWEEN 300P19 PIN 1 AND TB38 TERM 6. IS CONTINUITY PRESENT?
YES
NO
LOWER **LIGHTING** PNL FROM OVHD PNL. CHECK FOR CONTINUITY ACROSS **FORMATION LTS** SW TERMS 11 AND 16. IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRE W559-18-20 BETWEEN SW 113S1 AND 300P19. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE **FORMATION LTS** SW
SET **FORMATION LTS** SW TO **DIM**. LOWER OVHD PNL. CHECK FOR 115VAC BETWEEN TB38 TERM 1(+) AND GND. IS 115VAC PRESENT?
YES
REPLACE RESISTOR 113R1
NO
REMOVE ELEC PWR. SET **FORMATION LTS** SW TO **OFF**. LOWER **LIGHTING** PNL FROM OVHD PNL. CHECK FOR CONTINUITY BETWEEN **FORMATION LTS** SW TERM 12 AND TB38 TERM 1. IS CONTINUITY PRESENT?
YES
REPLACE **FORMATION LTS** SW
NO
LOCATE OPEN IN WIRE W559-23-20. REPAIR OR REPLACE WIRE AS REQUIRED
OPEN **FORM** CB. OPEN NO. 1 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF **FORM** CB113CB1 AND 300J19 PIN 1. IS CONTINUITY PRESENT?
YES
REPLACE **FORM** CB
NO
LOCATE OPEN IN WIRE W550-1-20 OR W645-8-20 BETWEEN CB and 300J19. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

9-5.6 FORMATION LIGHTS OUT OR DO NOT GET BRIGHTER AT INTERMEDIATE OR BRT POSITIONS

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

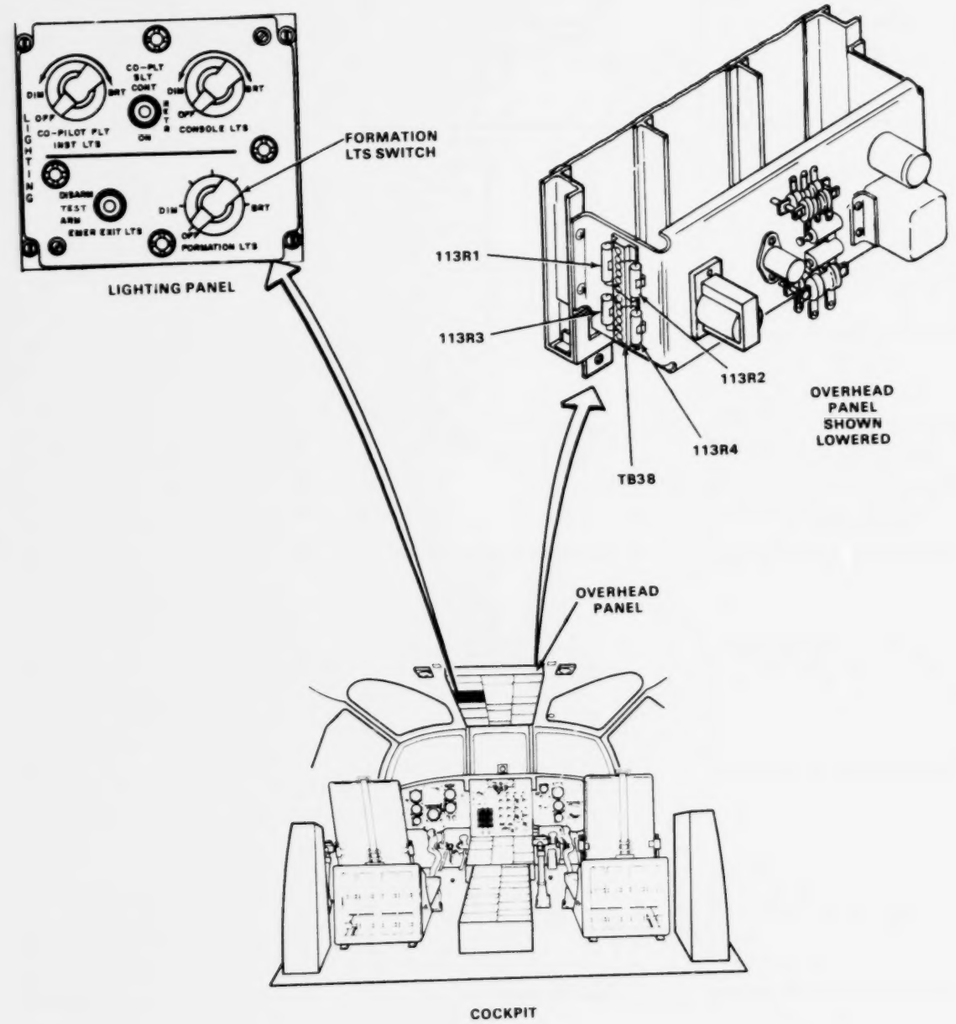
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



DH45-3144-SPA

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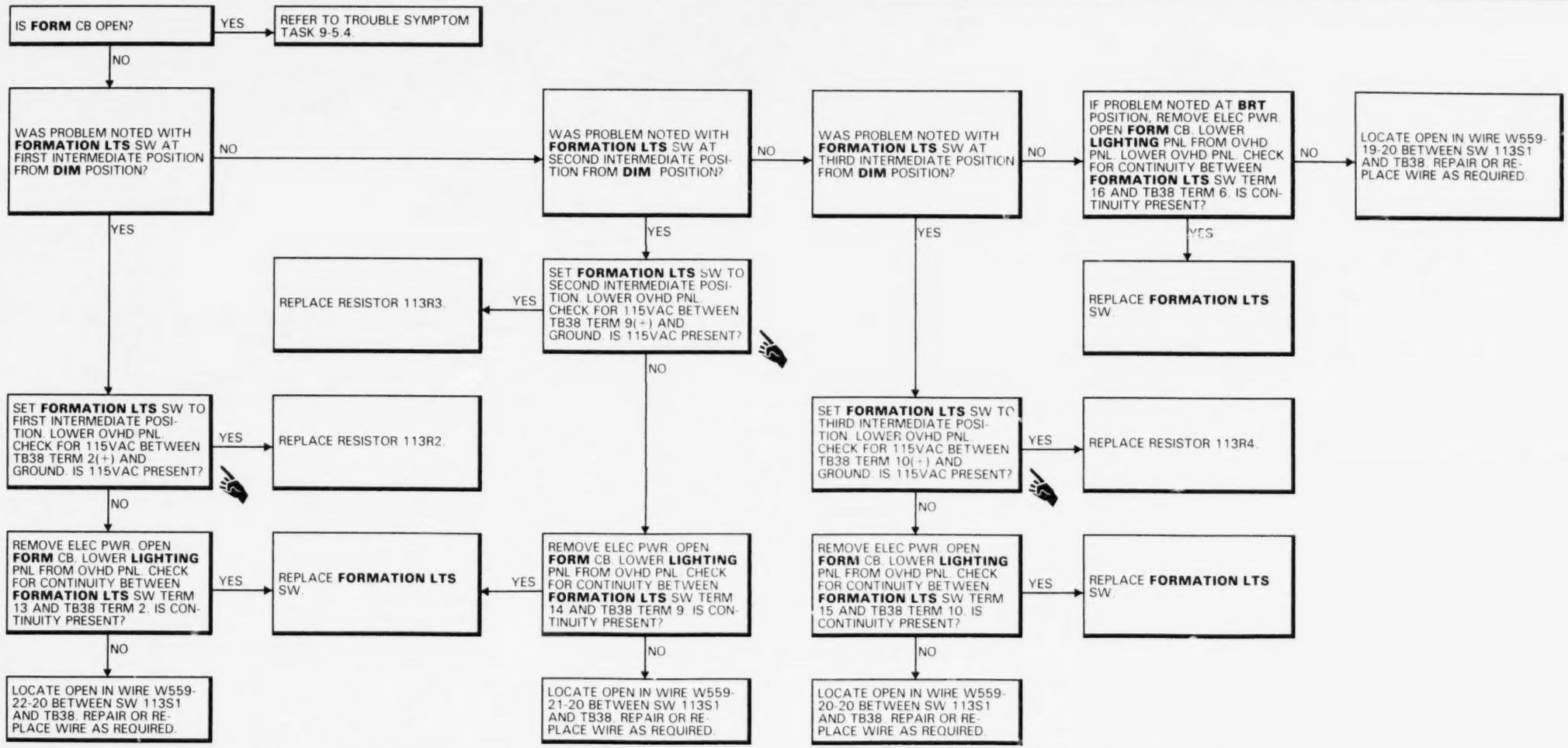
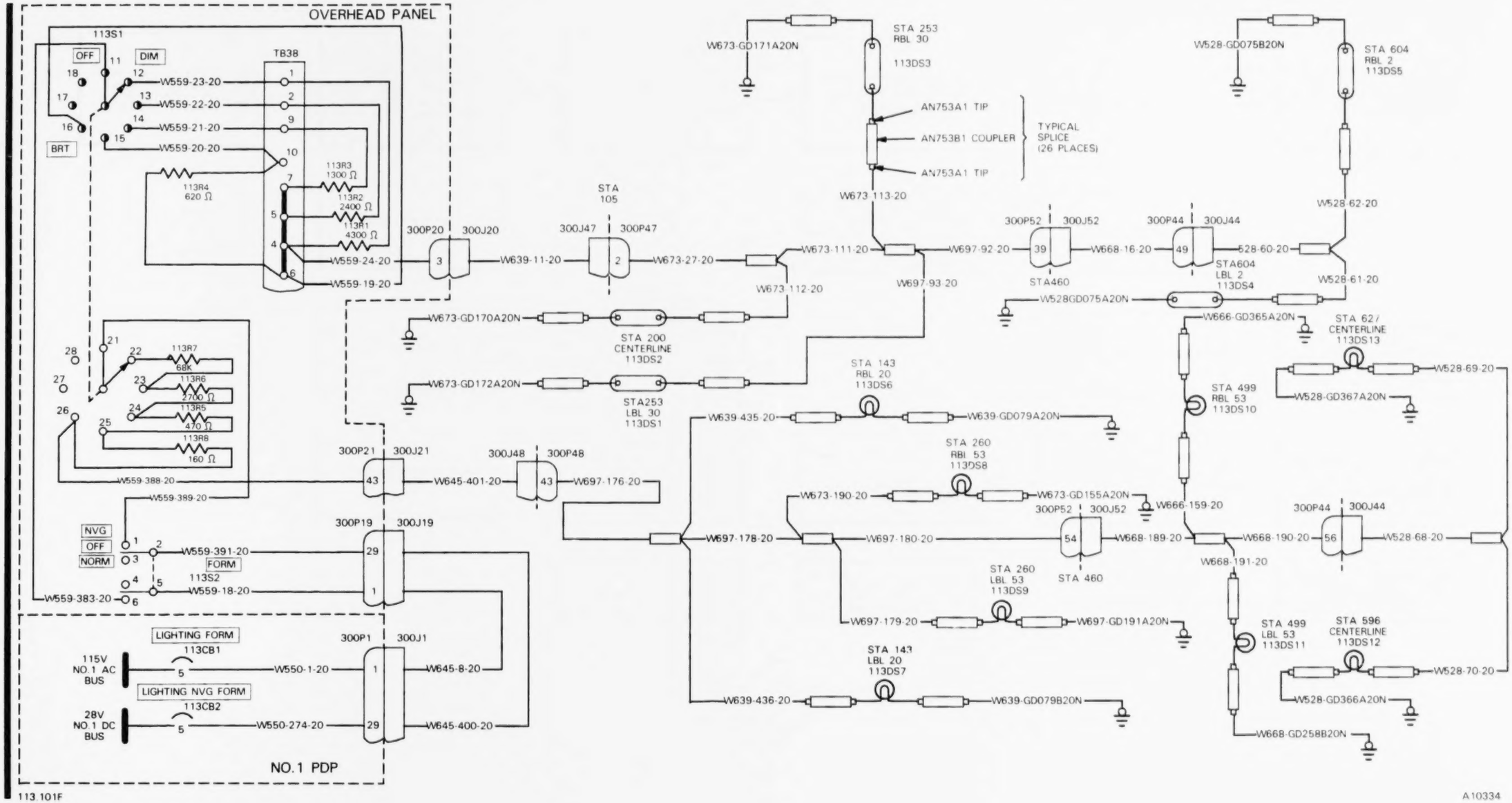
9-5.6 FORMATION LIGHTS OUT OR DO NOT GET BRIGHTER AT INTERMEDIATE OR BRT POSITIONS (Continued)


IS **FORM** CB OPEN?
YES
REFER TO TROUBLE SYMPTOM TASK 9-5.4.
NO
WAS PROBLEM NOTED WITH **FORMATION LTS** SW AT FIRST INTERMEDIATE POSITION FROM **DIM** POSITION?
NO
YES
WAS PROBLEM NOTED WITH **FORMATION LTS** SW AT SECOND INTERMEDIATE POSITION FROM **DIM** POSITION?
NO
YES
WAS PROBLEM NOTED WITH **FORMATION LTS** SW AT THIRD INTERMEDIATE POSITION FROM **DIM** POSITION?
NO
YES
IF PROBLEM NOTED AT **BRT** POSITION, REMOVE ELEC PWR. OPEN **FORM** CB. LOWER **LIGHTING** PNL FROM OVHD PNL. LOWER OVHD PNL. CHECK FOR CONTINUITY BETWEEN **FORMATION LTS** SW TERM 16 AND TB38 TERM 6. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W559-19-20 BETWEEN SW 113S1 AND TB38. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE **FORMATION LTS** SW.
SET **FORMATION LTS** SW TO SECOND INTERMEDIATE POSITION. LOWER OVHD PNL. CHECK FOR 115VAC BETWEEN TB38 TERM 9(+) AND GROUND. IS 115VAC PRESENT?
YES
REPLACE RESISTOR 113R3.
NO
SET **FORMATION LTS** SW TO FIRST INTERMEDIATE POSITION. LOWER OVHD PNL. CHECK FOR 115VAC BETWEEN TB38 TERM 2(+) AND GROUND. IS 115VAC PRESENT?
YES
REPLACE RESISTOR 113R2.
NO
REMOVE ELEC PWR. OPEN **FORM** CB. LOWER **LIGHTING** PNL FROM OVHD PNL. CHECK FOR CONTINUITY BETWEEN **FORMATION LTS** SW TERM 13 AND TB38 TERM 2. IS CONTINUITY PRESENT?
YES
REPLACE **FORMATION LTS** SW.
NO
LOCATE OPEN IN WIRE W559-22-20 BETWEEN SW 113S1 AND TB38. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELEC PWR. OPEN **FORM** CB. LOWER **LIGHTING** PNL FROM OVHD PNL. CHECK FOR CONTINUITY BETWEEN **FORMATION LTS** SW TERM 14 AND TB38 TERM 9. IS CONTINUITY PRESENT?
YES
REPLACE **FORMATION LTS** SW.
NO
LOCATE OPEN IN WIRE W559-21-20 BETWEEN SW 113S1 AND TB38. REPAIR OR REPLACE WIRE AS REQUIRED.
SET **FORMATION LTS** SW TO THIRD INTERMEDIATE POSITION. LOWER OVHD PNL. CHECK FOR 115VAC BETWEEN TB38 TERM 10(+) AND GROUND. IS 115VAC PRESENT?
YES
REPLACE RESISTOR 113R4.
NO
REMOVE ELEC PWR. OPEN **FORM** CB. LOWER **LIGHTING** PNL FROM OVHD PNL. CHECK FOR CONTINUITY BETWEEN **FORMATION LTS** SW TERM 15 AND TB38 TERM 10. IS CONTINUITY PRESENT?
YES
REPLACE **FORMATION LTS** SW.
NO
LOCATE OPEN IN WIRE W559-20-20 BETWEEN SW 113S1 AND TB38. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-5.7 FORMATION LIGHTS WIRING DIAGRAM (WITH 17)



END OF TASK

9-5.8 FORMATION LIGHTS VISUAL CHECK (WITH 17)

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

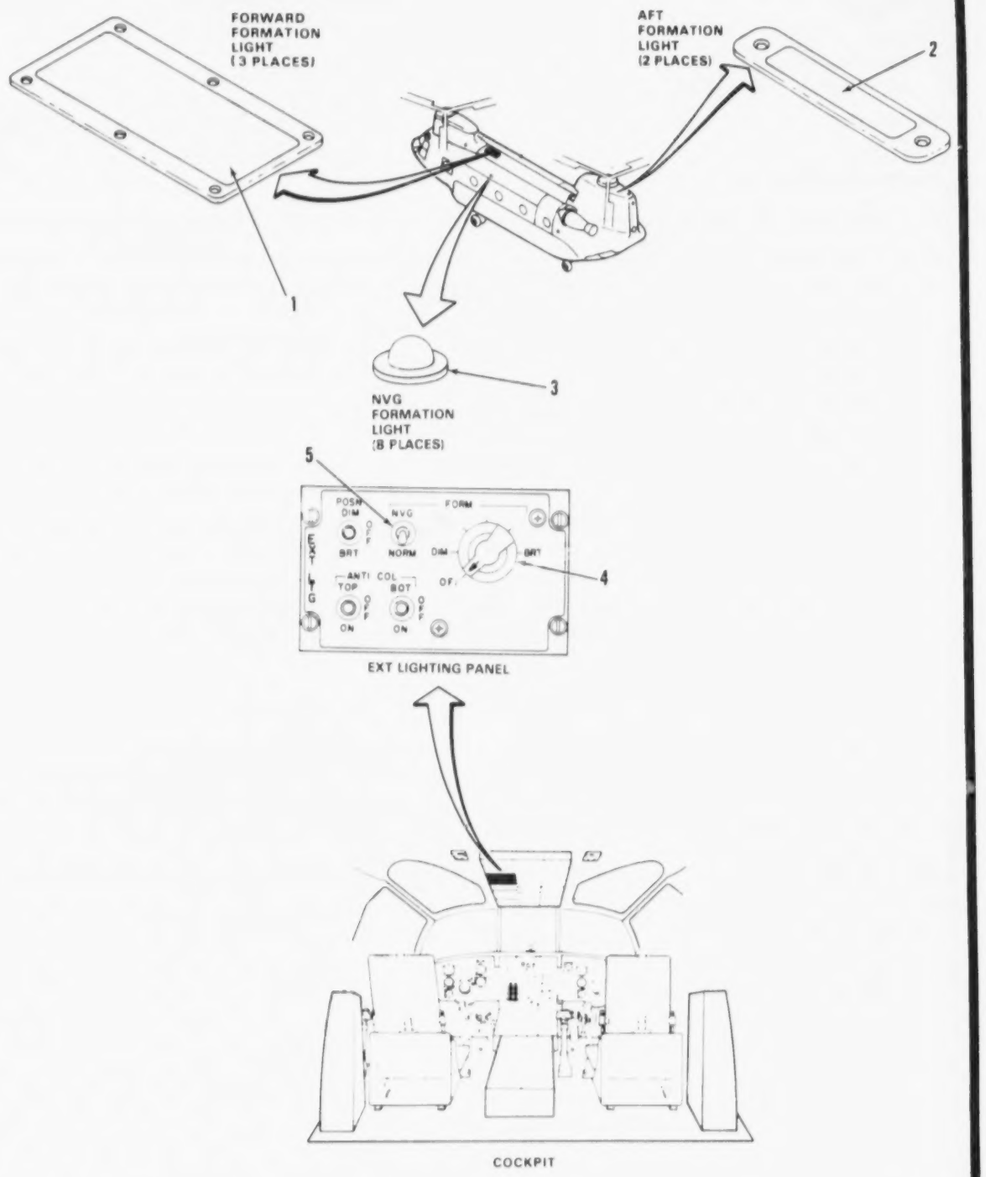
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check three forward normal formation lights (1).**	If any light (1) is loose, cracked, or burnt, tighten or replace it as required. **NOTE** **Slight discoloration of light face is normal.**
2. **Check two aft normal formation lights (2).**	If any light (2) is loose, cracked, or burnt, tighten or replace it as required.
3. Check eight NVG formation lights (3).	If any light (3) is loose, cracked, or burnt, tighten or replace it as required.
4. **Check FORM LTS control (4).**	If control (4) is loose or damaged, tighten or replace it as required.
5. **Check FORM NVG-NORM switch (5).**	If switch (5) is loose or damaged, tighten or replace it as required.

FOLLOW-ON MAINTENANCE:
None



END OF TASK

9-5.9 FORMATION LIGHTS OPERATIONAL CHECK (WITH 17)

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
Night Vision Goggles AN/AVS-6 or AN/PVS-5A with Daylight Filter Installed

Materials:
None

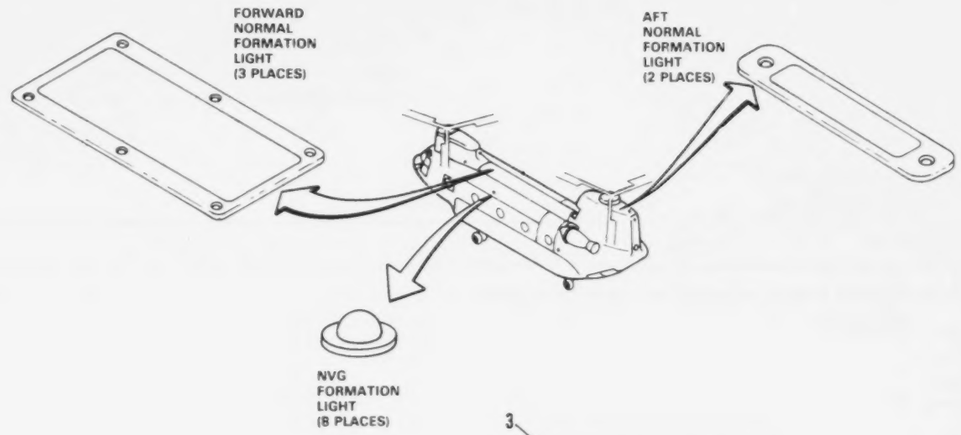
Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
VisualCheck of Formation Lights With 17 Performed (Task 9-5.8)

TASK	RESULT
1. **Check** that **LIGHTING FORM circuit breaker (1)** is closed.	If FORM circuit breaker (1) is open, close it. If it opens again, go to task 9-5.10.
2. **Check** that **LIGHTING NVG FORM circuit breaker (2)** is closed.	If LIGHTING NVG FORM circuit breaker (2) is open, close it. If it opens again, go to task 9-5.11.
3. **Set FORM NVG-NORM switch (3) to NORM.**	
4. **Set FORM BRT-DIM switch (4) to DIM.**	Five normal formation lights shall come on dim. If any light is not on, go to task 9-5.12.
5. **Rotate FORM BRT-DIM switch (4) through intermediate positions to BRT.**	Five normal formation lights shall get brighter as switch is turned clockwise. If lights go out or brightness does not increase, go to task 9-5.13.
6. **Set FORM BRT-DIM switch (4) to DIM. Set FORM NVG-NORM switch (3) to NVG.** Use night vision goggles to view NVG formation lights. During daylight hours shield ambient light.	Eight NVG formation lights shall come on dim. If any light is not on, go to task 9-5.14.
7. **Rotate FORM BRT-DIM switch (4) through intermediate positions to BRT.**	Eight NVG formation lights shall get brighter as switch is turned clockwise. If lights go out or brightness does not increase, go to task 9-5.15.
8. **Rotate FORM BRT-DIM switch (4) to OFF.**	

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Electrical Power Off
Battery Disconnected



END OF TASK

9-5.10 FORM CIRCUIT BREAKER DOES NOT STAY CLOSED (WITH 17)

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

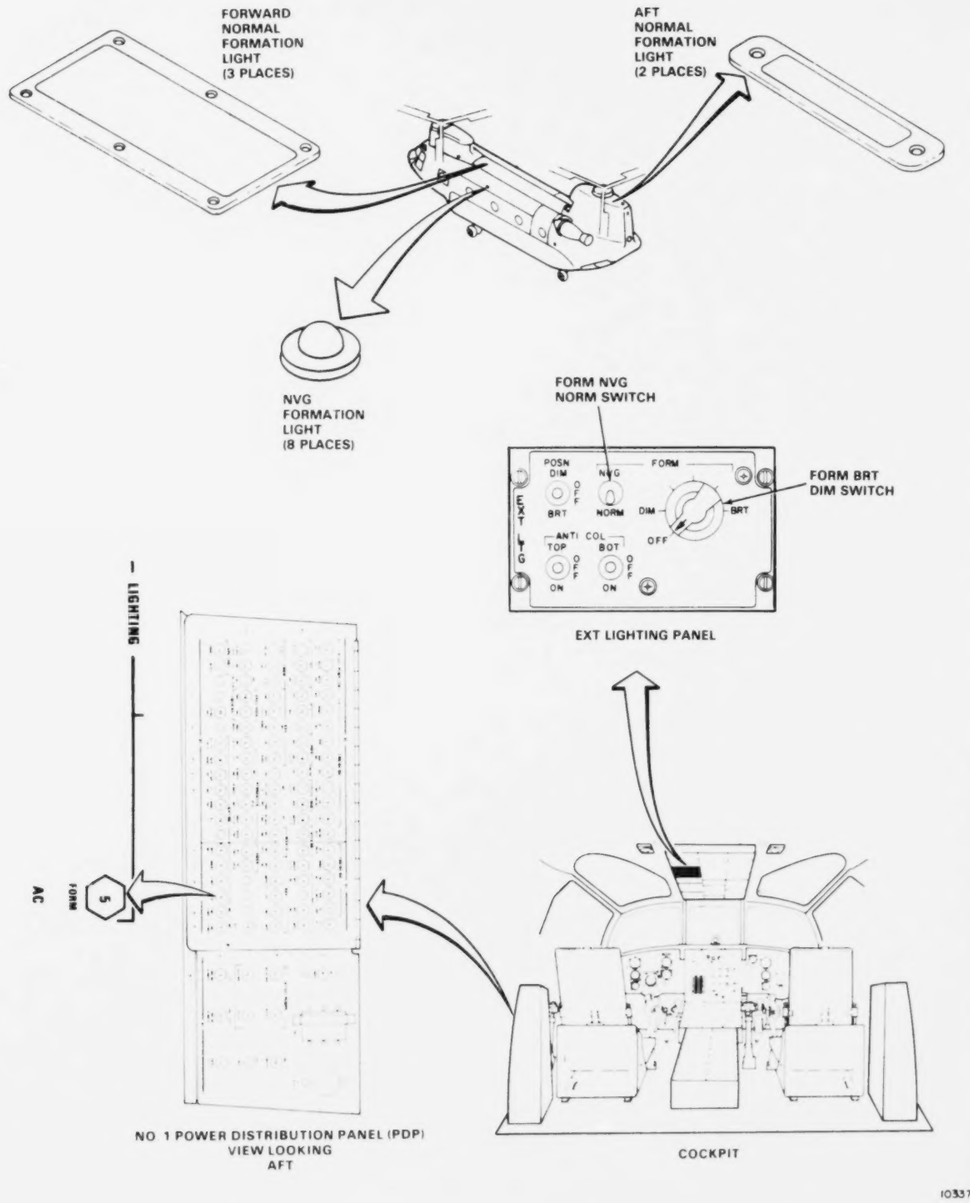
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

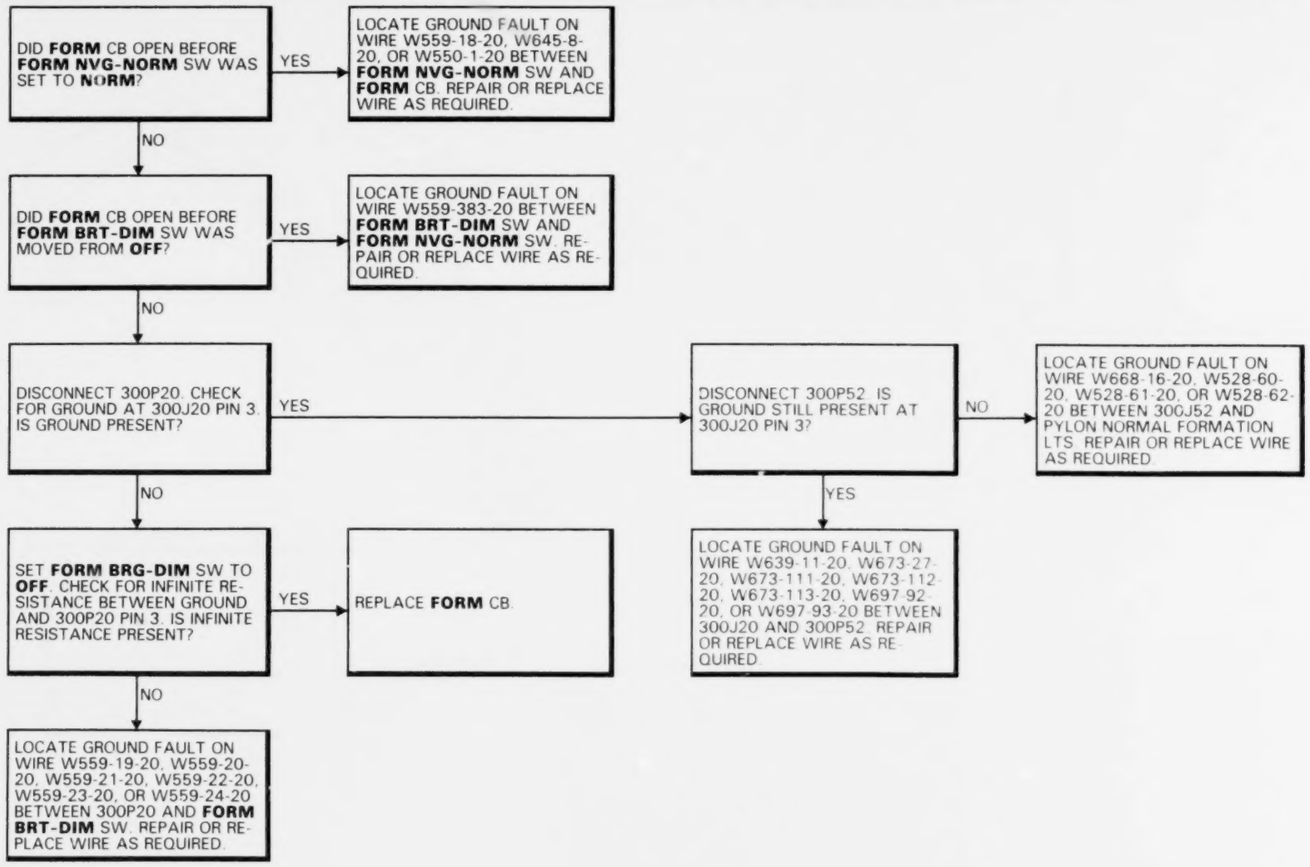
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off


FORWARD NORMAL FORMATION LIGHT (3 PLACES)
AFT NORMAL FORMATION LIGHT (2 PLACES)
NVG FORMATION LIGHT (8 PLACES)
FORM NVG NORM SWITCH
FORM BRT DIM SWITCH
EXT LIGHTING PANEL
AC FORM 5 LIGHTING
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
COCKPIT
10337

GO TO NEXT PAGE


DID **FORM** CB OPEN BEFORE **FORM NVG-NORM** SW WAS SET TO **NORM**?
YES
LOCATE GROUND FAULT ON WIRE W559-18-20, W645-8-20, OR W550-1-20 BETWEEN **FORM NVG-NORM** SW AND **FORM** CB. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
DID **FORM** CB OPEN BEFORE **FORM BRT-DIM** SW WAS MOVED FROM **OFF**?
YES
LOCATE GROUND FAULT ON WIRE W559-383-20 BETWEEN **FORM BRT-DIM** SW AND **FORM NVG-NORM** SW. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
DISCONNECT 300P20. CHECK FOR GROUND AT 300J20 PIN 3. IS GROUND PRESENT?
YES
DISCONNECT 300P52. IS GROUND STILL PRESENT AT 300J20 PIN 3?
NO
LOCATE GROUND FAULT ON WIRE W668-16-20, W528-60-20, W528-61-20, OR W528-62-20 BETWEEN 300J52 AND PYLON NORMAL FORMATION LTS. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W639-11-20, W673-27-20, W673-111-20, W673-112-20, W673-113-20, W697-92-20, OR W697-93-20 BETWEEN 300J20 AND 300P52. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
SET **FORM BRG-DIM** SW TO **OFF**. CHECK FOR INFINITE RESISTANCE BETWEEN GROUND AND 300P20 PIN 3. IS INFINITE RESISTANCE PRESENT?
YES
REPLACE **FORM** CB.
NO
LOCATE GROUND FAULT ON WIRE W559-19-20, W559-20-20, W559-21-20, W559-22-20, W559-23-20, OR W559-24-20 BETWEEN 300P20 AND **FORM BRT-DIM** SW. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-5.11 NVG FORM CIRCUIT BREAKER DOES NOT STAY CLOSED (WITH 17)

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

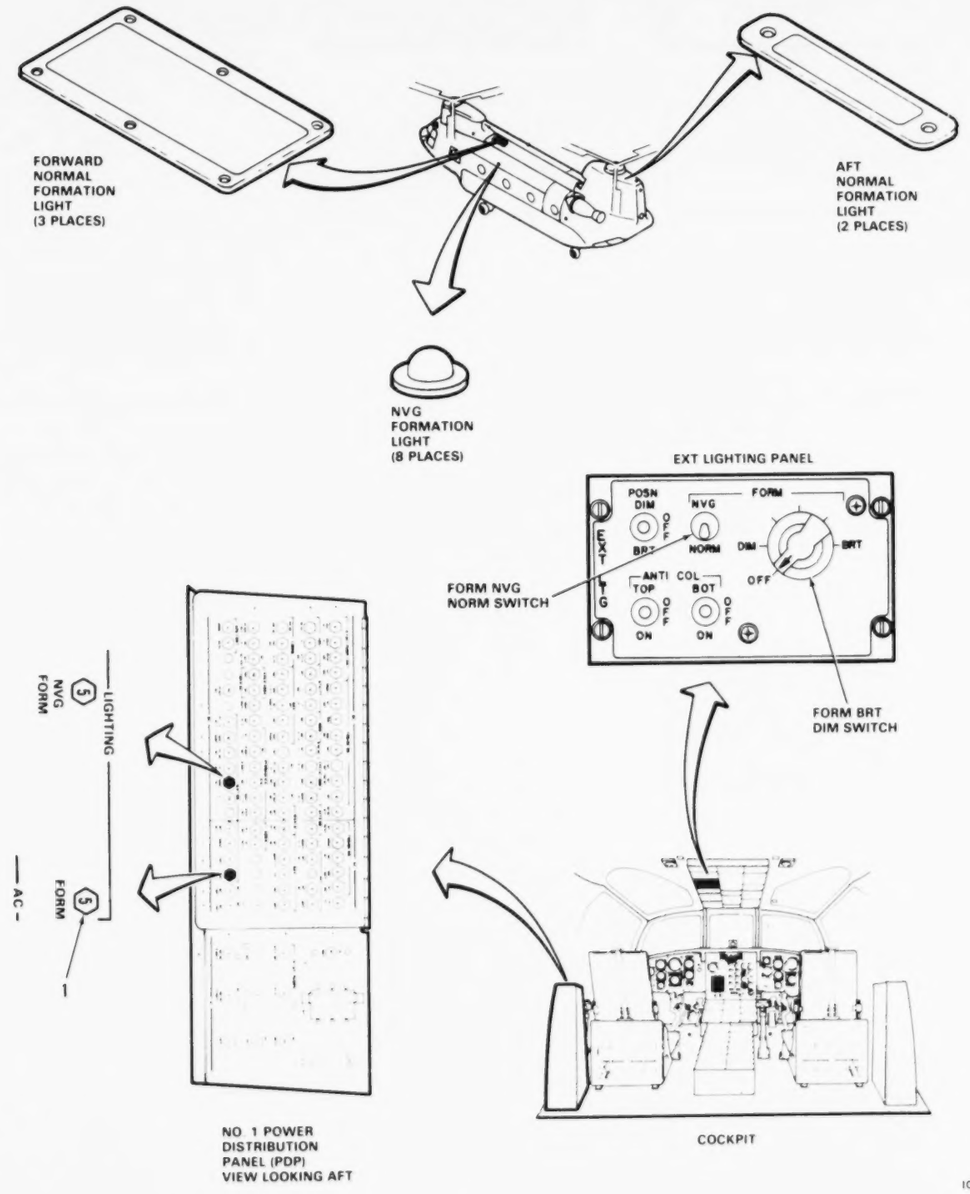
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



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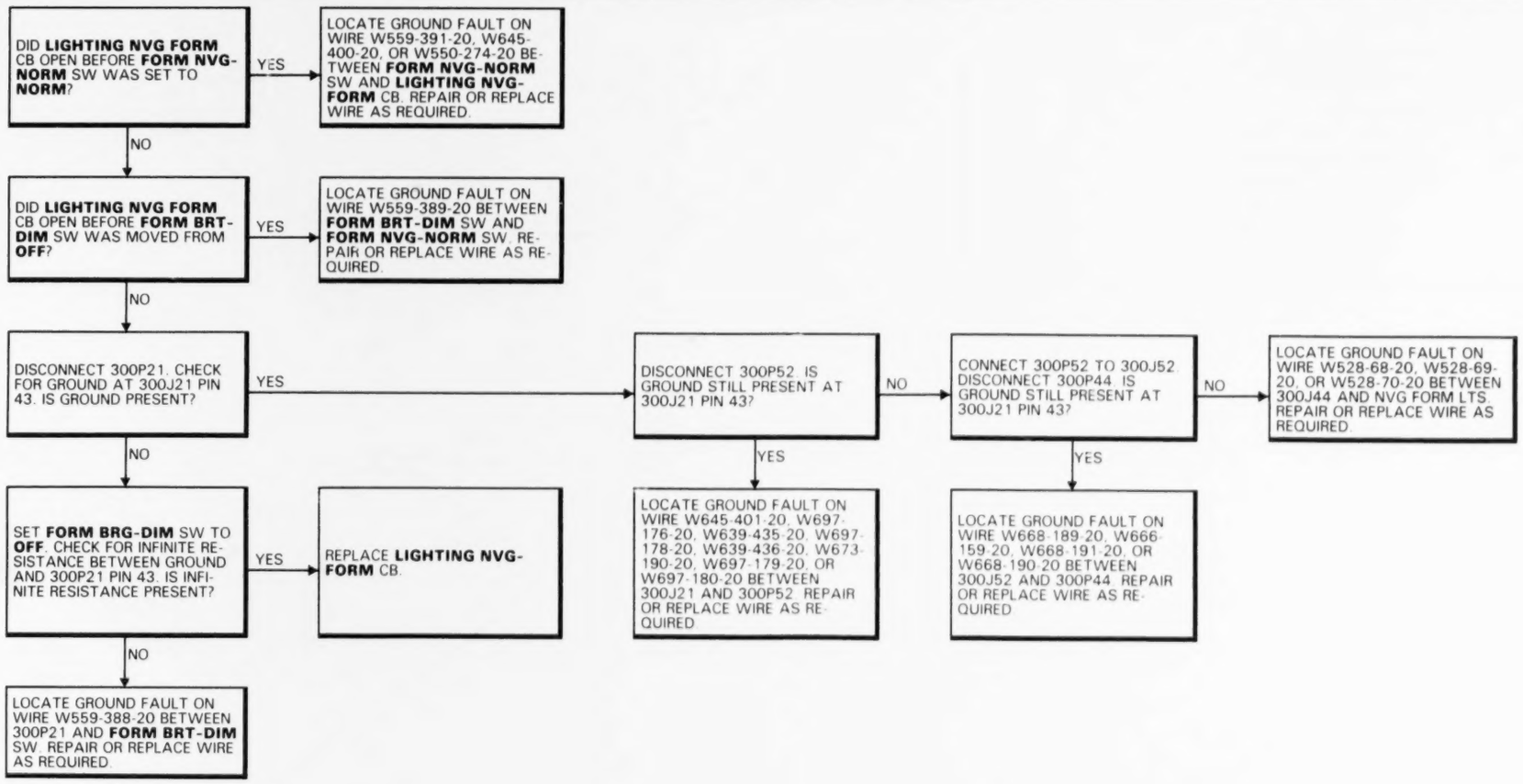
9-5.11 NVG FORM CIRCUIT BREAKER DOES NOT STAY CLOSED (WITH 17) (Continued)


DID **LIGHTING NVG FORM** CB OPEN BEFORE **FORM NVG-NORM** SW WAS SET TO **NORM**?
YES
LOCATE GROUND FAULT ON WIRE W559-391-20, W645-400-20, OR W550-274-20 BETWEEN **FORM NVG-NORM** SW AND **LIGHTING NVG-FORM** CB. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
DID **LIGHTING NVG FORM** CB OPEN BEFORE **FORM BRT-DIM** SW WAS MOVED FROM **OFF**?
YES
LOCATE GROUND FAULT ON WIRE W559-389-20 BETWEEN **FORM BRT-DIM** SW AND **FORM NVG-NORM** SW. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
DISCONNECT 300P21. CHECK FOR GROUND AT 300J21 PIN 43. IS GROUND PRESENT?
YES
DISCONNECT 300P52. IS GROUND STILL PRESENT AT 300J21 PIN 43?
NO
CONNECT 300P52 TO 300J52. DISCONNECT 300P44. IS GROUND STILL PRESENT AT 300J21 PIN 43?
NO
LOCATE GROUND FAULT ON WIRE W528-68-20, W528-69-20, OR W528-70-20 BETWEEN 300J44 AND NVG FORM LTS. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W668-189-20, W666-159-20, W668-191-20, OR W668-190-20 BETWEEN 300J52 AND 300P44. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W645-401-20, W697-176-20, W639-435-20, W697-178-20, W639-436-20, W673-190-20, W697-179-20, OR W697-180-20 BETWEEN 300J21 AND 300P52. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
SET **FORM BRG-DIM** SW TO **OFF**. CHECK FOR INFINITE RESISTANCE BETWEEN GROUND AND 300P21 PIN 43. IS INFINITE RESISTANCE PRESENT?
YES
REPLACE **LIGHTING NVG-FORM** CB.
NO
LOCATE GROUND FAULT ON WIRE W559-388-20 BETWEEN 300P21 AND **FORM BRT-DIM** SW. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-5.12 NORMAL FORMATION LIGHT OR LIGHTS NOT ON AT DIM (WITH 17)

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

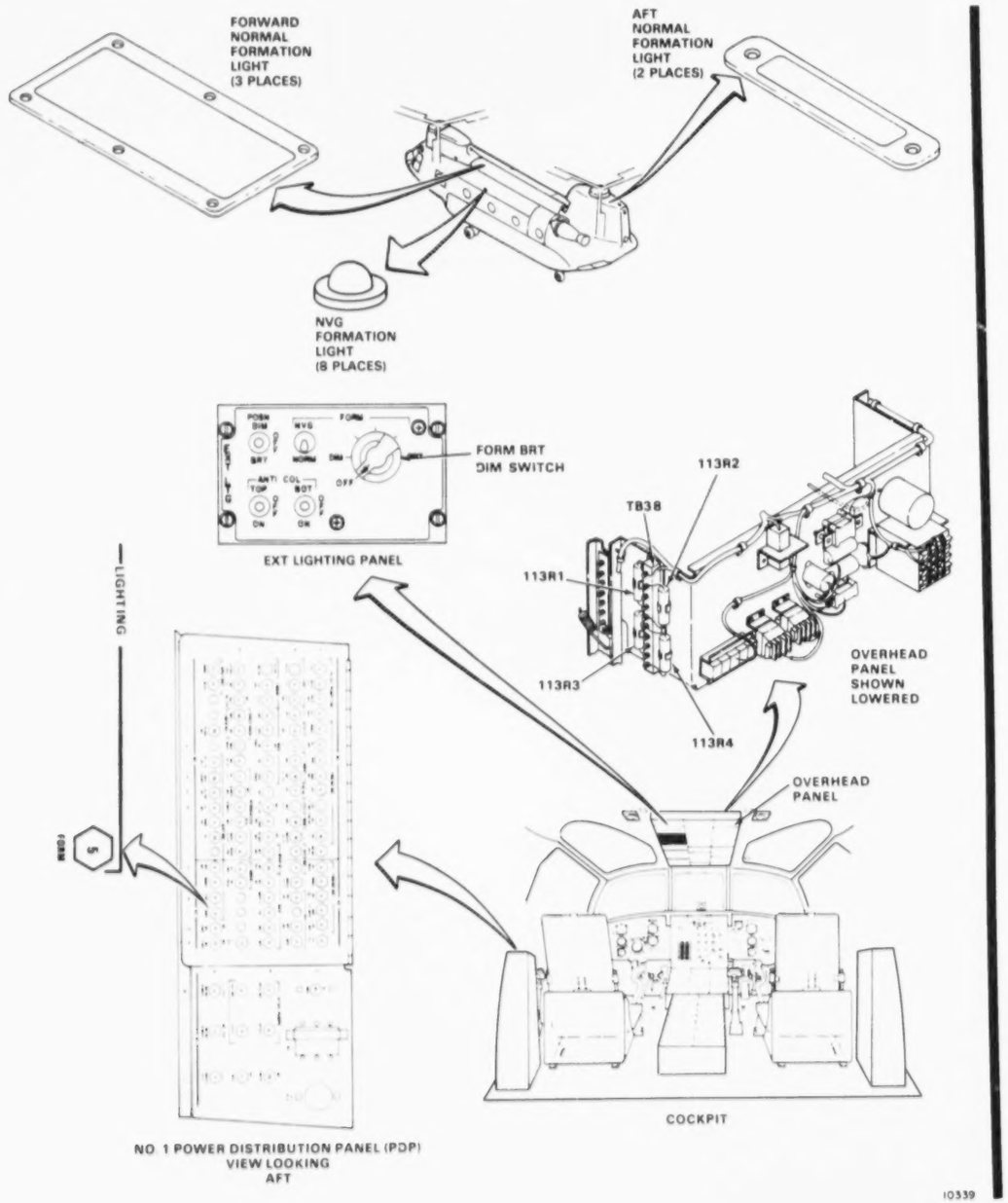
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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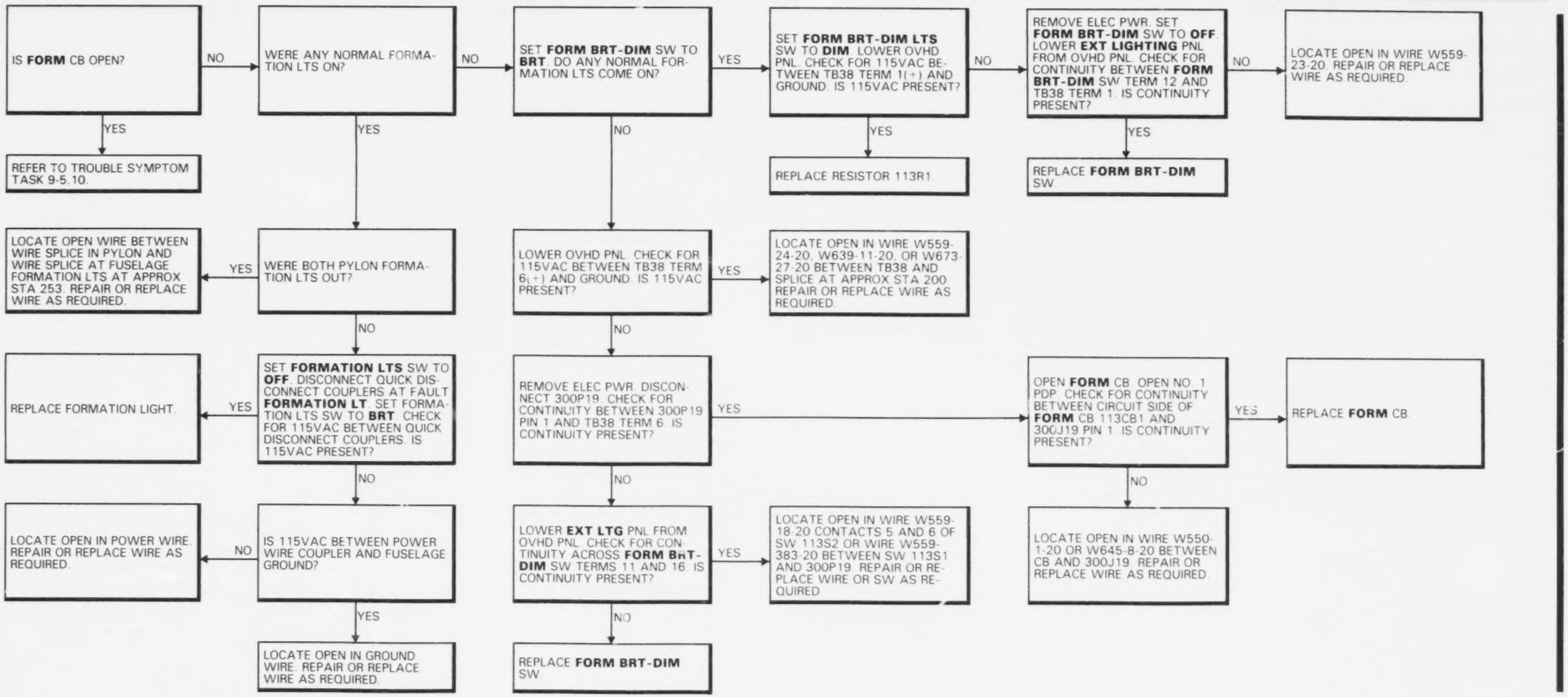
9-5.12 NORMAL FORMATION LIGHT OR LIGHTS NOT ON AT DIM (WITH 17) (Continued)


IS **FORM** CB OPEN?
NO
WERE ANY NORMAL FORMATION LTS ON?
NO
SET **FORM BRT-DIM** SW TO **BRT**. DO ANY NORMAL FORMATION LTS COME ON?
YES
SET **FORM BRT-DIM LTS** SW TO **DIM**. LOWER OVHD PNL. CHECK FOR 115VAC BETWEEN TB38 TERM 1(+) AND GROUND. IS 115VAC PRESENT?
NO
REMOVE ELEC PWR. SET **FORM BRT-DIM** SW TO **OFF**. LOWER **EXT LIGHTING** PNL. FROM OVHD PNL. CHECK FOR CONTINUITY BETWEEN **FORM BRT-DIM** SW TERM 12 AND TB38 TERM 1. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W559-23-20. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REFER TO TROUBLE SYMPTOM TASK 9-5.10.
YES
REPLACE RESISTOR 113R1.
YES
REPLACE **FORM BRT-DIM** SW.
YES
LOCATE OPEN WIRE BETWEEN WIRE SPLICE IN PYLON AND WIRE SPLICE AT FUSELAGE FORMATION LTS AT APPROX STA 253. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
WERE BOTH PYLON FORMATION LTS OUT?
NO
LOWER OVHD PNL. CHECK FOR 115VAC BETWEEN TB38 TERM 6(+) AND GROUND. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRE W559-24-20, W639-11-20, OR W673-27-20 BETWEEN TB38 AND SPLICE AT APPROX STA 200. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE FORMATION LIGHT.
YES
SET **FORMATION LTS** SW TO **OFF**. DISCONNECT QUICK DISCONNECT COUPLERS AT FAULT **FORMATION LT**. SET FORMATION LTS SW TO **BRT**. CHECK FOR 115VAC BETWEEN QUICK DISCONNECT COUPLERS. IS 115VAC PRESENT?
NO
REMOVE ELEC PWR. DISCONNECT 300P19. CHECK FOR CONTINUITY BETWEEN 300P19 PIN 1 AND TB38 TERM 6. IS CONTINUITY PRESENT?
YES
OPEN **FORM** CB. OPEN NO. 1 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF **FORM** CB 113CB1 AND 300J19 PIN 1. IS CONTINUITY PRESENT?
YES
REPLACE **FORM** CB.
NO
LOCATE OPEN IN POWER WIRE. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
IS 115VAC BETWEEN POWER WIRE COUPLER AND FUSELAGE GROUND?
YES
LOCATE OPEN IN GROUND WIRE. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOWER **EXT LTG** PNL FROM OVHD PNL. CHECK FOR CONTINUITY ACROSS **FORM BRT-DIM** SW TERMS 11 AND 16. IS CONTINUITY PRESENT?
YES
LOCATE OPEN IN WIRE W559-18-20 CONTACTS 5 AND 6 OF SW 113S2 OR WIRE W559-383-20 BETWEEN SW 113S1 AND 300P19. REPAIR OR REPLACE WIRE OR SW AS REQUIRED
NO
REPLACE **FORM BRT-DIM** SW.
NO
LOCATE OPEN IN WIRE W550-1-20 OR W645-8-20 BETWEEN CB AND 300J19. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-5.13 NORMAL FORMATION LIGHTS OUT OR DO NOT GET BRIGHTER AT INTERMEDIATE OR BRT POSITIONS (WITH 17)

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

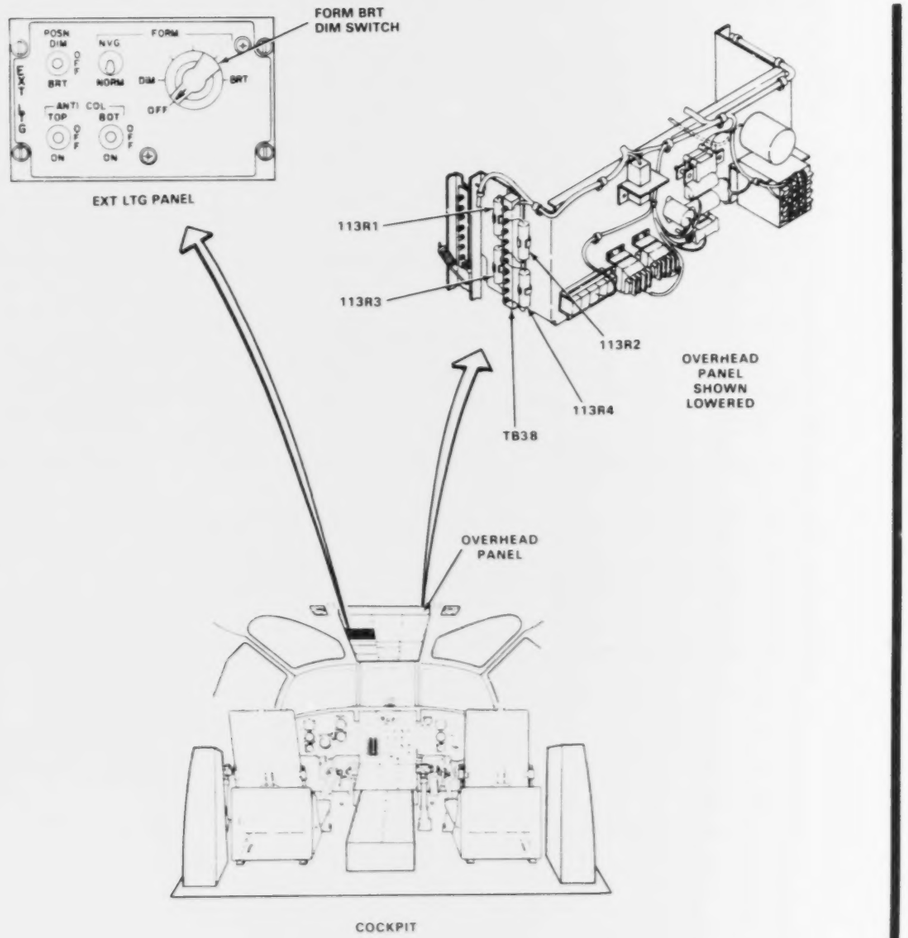
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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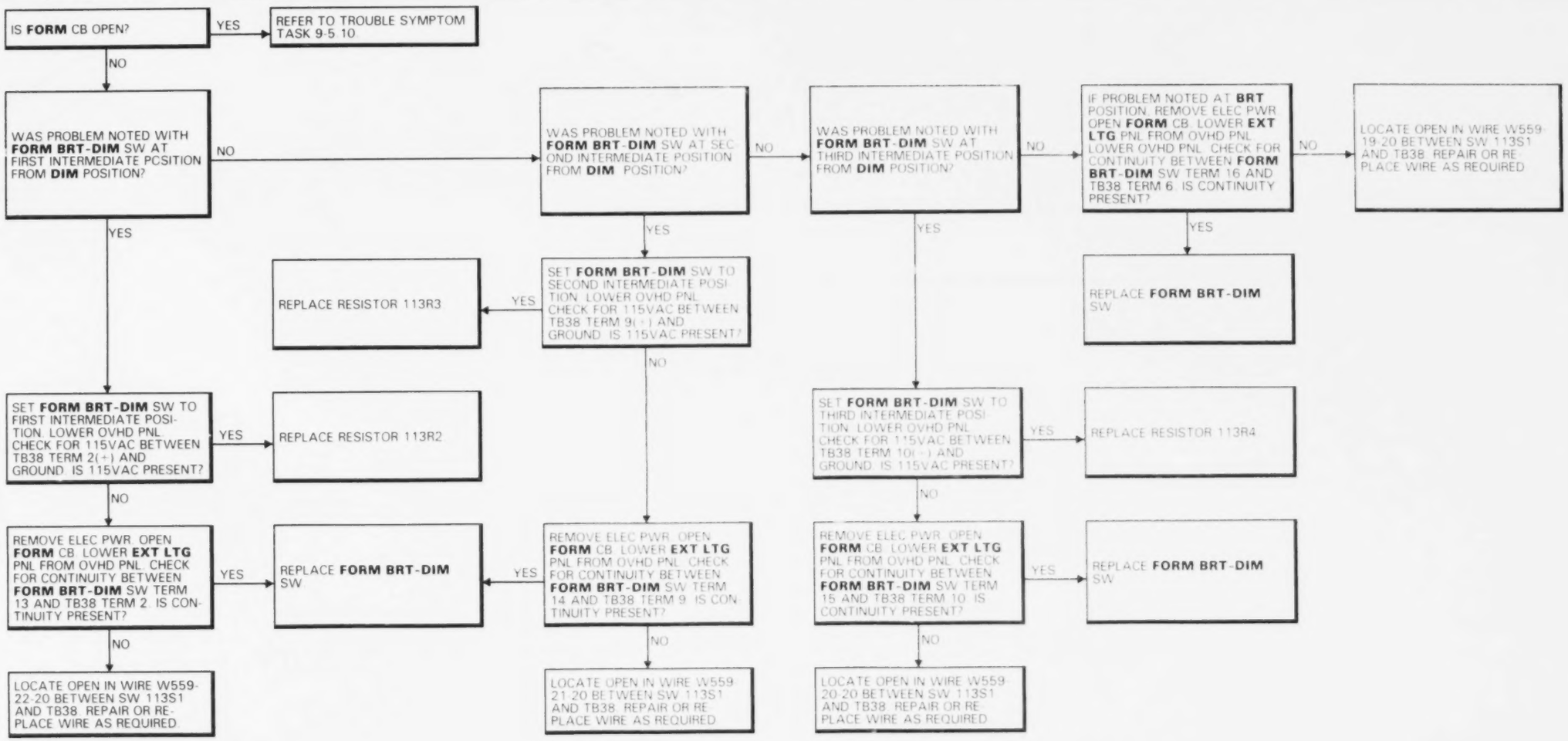
9-5.13 NORMAL FORMATION LIGHTS OUT OR DO NOT GET BRIGHTER AT INTERMEDIATE OR BRT POSITIONS (WITH 17) (Continued)


IS **FORM** CB OPEN?
YES
REFER TO TROUBLE SYMPTOM TASK 9-5.10
NO
WAS PROBLEM NOTED WITH **FORM BRT-DIM** SW AT FIRST INTERMEDIATE POSITION FROM **DIM** POSITION?
NO
WAS PROBLEM NOTED WITH **FORM BRT-DIM** SW AT SECOND INTERMEDIATE POSITION FROM **DIM** POSITION?
NO
WAS PROBLEM NOTED WITH **FORM BRT-DIM** SW AT THIRD INTERMEDIATE POSITION FROM **DIM** POSITION?
NO
IF PROBLEM NOTED AT **BRT** POSITION, REMOVE ELEC PWR OPEN **FORM** CB. LOWER **EXT LTG** PNL FROM OVHD PNL. LOWER OVHD PNL. CHECK FOR CONTINUITY BETWEEN **FORM BRT-DIM** SW TERM 16 AND TB38 TERM 6. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W559-19-20 BETWEEN SW 113S1 AND TB38. REPAIR OR REPLACE WIRE AS REQUIRED
YES
YES
YES
YES
REPLACE **FORM BRT-DIM** SW
SET **FORM BRT-DIM** SW TO SECOND INTERMEDIATE POSITION. LOWER OVHD PNL. CHECK FOR 115VAC BETWEEN TB38 TERM 9(+) AND GROUND. IS 115VAC PRESENT?
YES
REPLACE RESISTOR 113R3
NO
SET **FORM BRT-DIM** SW TO FIRST INTERMEDIATE POSITION. LOWER OVHD PNL. CHECK FOR 115VAC BETWEEN TB38 TERM 2(+) AND GROUND. IS 115VAC PRESENT?
YES
REPLACE RESISTOR 113R2
NO
SET **FORM BRT-DIM** SW TO THIRD INTERMEDIATE POSITION. LOWER OVHD PNL. CHECK FOR 115VAC BETWEEN TB38 TERM 10(+) AND GROUND. IS 115VAC PRESENT?
YES
REPLACE RESISTOR 113R4
NO
REMOVE ELEC PWR. OPEN **FORM** CB. LOWER **EXT LTG** PNL FROM OVHD PNL. CHECK FOR CONTINUITY BETWEEN **FORM BRT-DIM** SW TERM 13 AND TB38 TERM 2. IS CONTINUITY PRESENT?
YES
REPLACE **FORM BRT-DIM** SW
NO
LOCATE OPEN IN WIRE W559-22-20 BETWEEN SW 113S1 AND TB38. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE ELEC PWR. OPEN **FORM** CB. LOWER **EXT LTG** PNL FROM OVHD PNL. CHECK FOR CONTINUITY BETWEEN **FORM BRT-DIM** SW TERM 14 AND TB38 TERM 9. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W559-21-20 BETWEEN SW 113S1 AND TB38. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE ELEC PWR. OPEN **FORM** CB. LOWER **EXT LTG** PNL FROM OVHD PNL. CHECK FOR CONTINUITY BETWEEN **FORM BRT-DIM** SW TERM 15 AND TB38 TERM 10. IS CONTINUITY PRESENT?
YES
REPLACE **FORM BRT-DIM** SW
NO
LOCATE OPEN IN WIRE W559-20-20 BETWEEN SW 113S1 AND TB38. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

9-5.14 NVG FORMATION LIGHT OR LIGHTS NOT ON AT DIM (WITH 17)

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

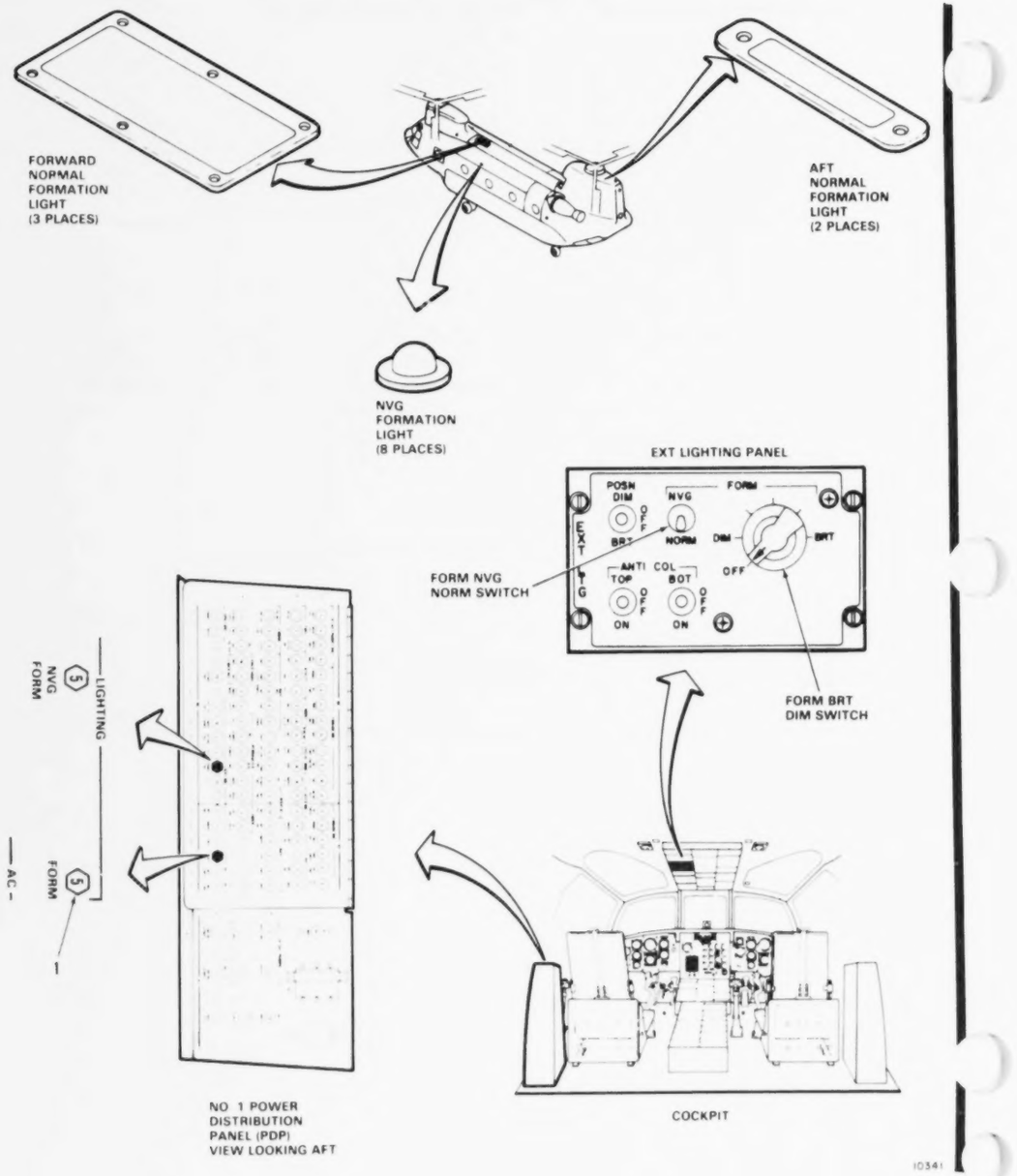
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter
Night Vision Goggles AN/AVS-6 or AN-PVS-5A
with Daylight Filter Installed

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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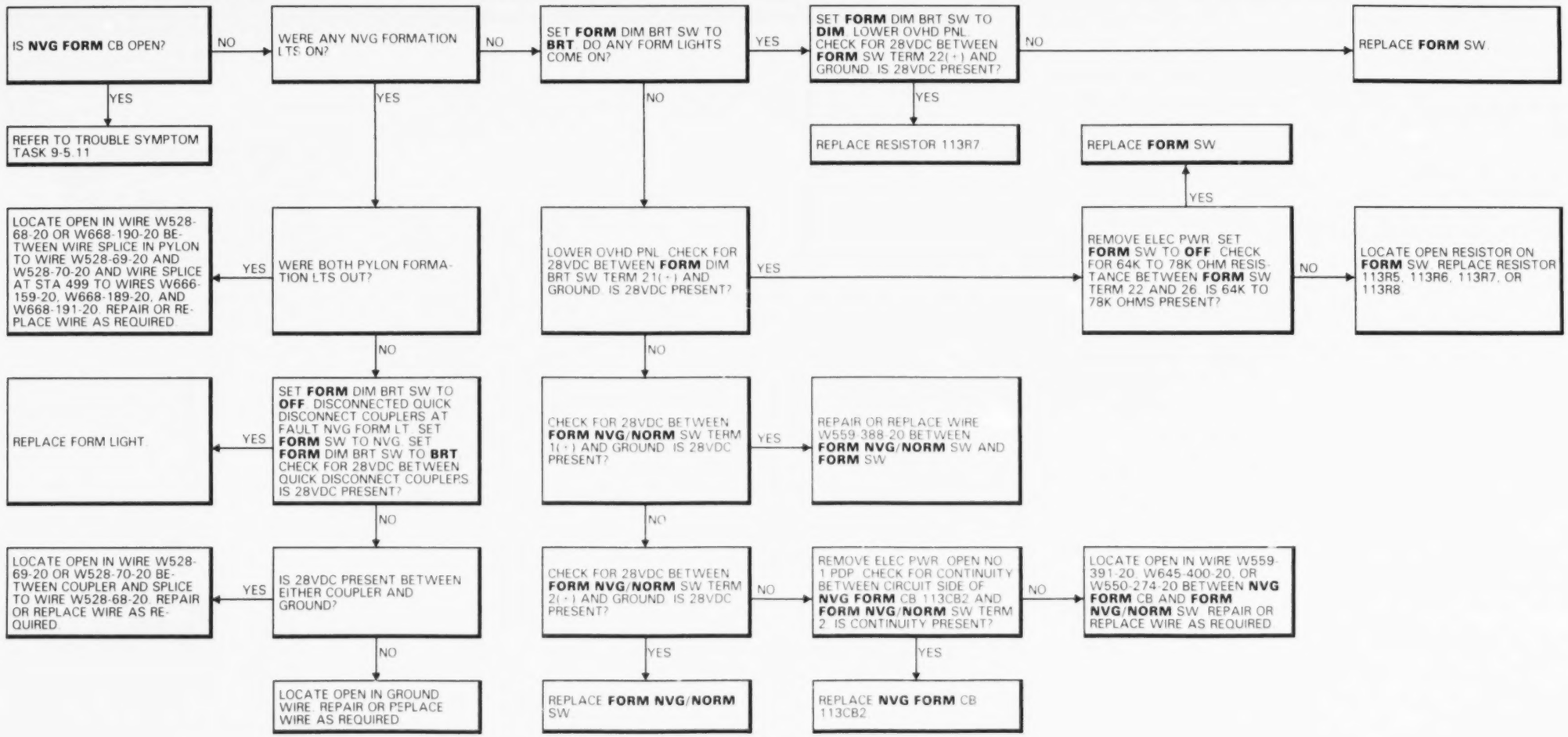

IS NVG FORM CB OPEN?
NO
YES
REFER TO TROUBLE SYMPTOM TASK 9-5.11
WERE ANY NVG FORMATION LTS ON?
NO
YES
WERE BOTH PYLON FORMATION LTS OUT?
YES
LOCATE OPEN IN WIRE W528-68-20 OR W668-190-20 BETWEEN WIRE SPLICE IN PYLON TO WIRE W528-69-20 AND W528-70-20 AND WIRE SPLICE AT STA 499 TO WIRES W666-159-20, W668-189-20, AND W668-191-20. REPAIR OR REPLACE WIRE AS REQUIRED
NO
SET FORM DIM BRT SW TO OFF. DISCONNECTED QUICK DISCONNECT COUPLERS AT FAULT NVG FORM LT. SET FORM SW TO NVG. SET FORM DIM BRT SW TO BRT. CHECK FOR 28VDC BETWEEN QUICK DISCONNECT COUPLERS. IS 28VDC PRESENT?
YES
REPLACE FORM LIGHT
NO
IS 28VDC PRESENT BETWEEN EITHER COUPLER AND GROUND?
YES
LOCATE OPEN IN WIRE W528-69-20 OR W528-70-20 BETWEEN COUPLER AND SPLICE TO WIRE W528-68-20. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN GROUND WIRE. REPAIR OR PEPLACE WIRE AS REQUIRED
SET FORM DIM BRT SW TO BRT. DO ANY FORM LIGHTS COME ON?
YES
NO
LOWER OVHD PNL. CHECK FOR 28VDC BETWEEN FORM DIM BRT SW TERM 21(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
CHECK FOR 28VDC BETWEEN FORM NVG/NORM SW TERM 1(+) AND GROUND. IS 28VDC PRESENT?
YES
REPAIR OR REPLACE WIRE W559-388-20 BETWEEN FORM NVG/NORM SW AND FORM SW
NO
CHECK FOR 28VDC BETWEEN FORM NVG/NORM SW TERM 2(+) AND GROUND. IS 28VDC PRESENT?
NO
YES
REPLACE FORM NVG/NORM SW
REMOVE ELEC PWR. OPEN NO 1 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF NVG FORM CB 113CB2 AND FORM NVG/NORM SW TERM 2. IS CONTINUITY PRESENT?
NO
YES
REPLACE NVG FORM CB 113CB2
LOCATE OPEN IN WIRE W559-391-20, W645-400-20, OR W550-274-20 BETWEEN NVG FORM CB AND FORM NVG/NORM SW. REPAIR OR REPLACE WIRE AS REQUIRED
SET FORM DIM BRT SW TO DIM. LOWER OVHD PNL. CHECK FOR 28VDC BETWEEN FORM SW TERM 22(+) AND GROUND. IS 28VDC PRESENT?
NO
YES
REPLACE RESISTOR 113R7
REPLACE FORM SW
REMOVE ELEC PWR. SET FORM SW TO OFF. CHECK FOR 64K TO 78K OHM RESISTANCE BETWEEN FORM SW TERM 22 AND 26. IS 64K TO 78K OHMS PRESENT?
YES
NO
LOCATE OPEN RESISTOR ON FORM SW. REPLACE RESISTOR 113R5, 113R6, 113R7, OR 113R8.
REPLACE FORM SW.

END OF TASK

9-5.15 NVG FORMATION LIGHTS OUT OR DO NOT GET BRIGHTER AT INTERMEDIATE OR BRT POSITIONS (WITH 17) 9-5.15

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

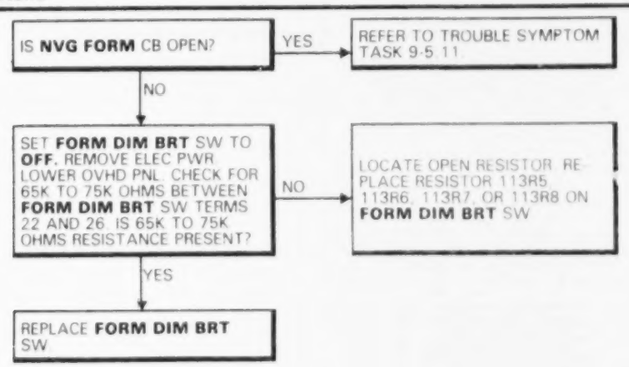
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter
Night Vision Goggles AN/AVS-6 or AN/PVS-5A with Daylight Filter Installed

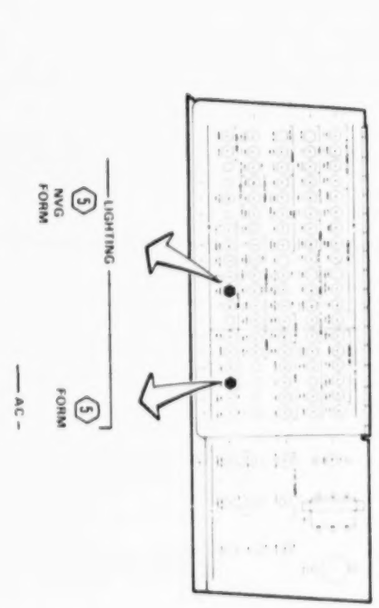
Materials:
None

Personnel Required:
Aircraft Electrician

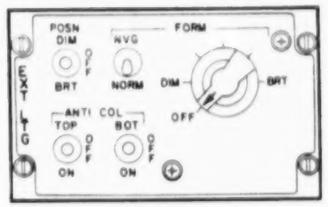
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off

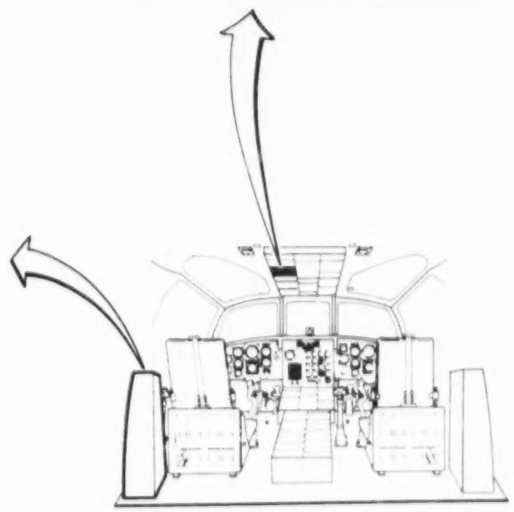

IS **NVG FORM** CB OPEN?
YES
REFER TO TROUBLE SYMPTOM TASK 9-5.11
NO
SET **FORM DIM BRT** SW TO **OFF**. REMOVE ELEC PWR. LOWER OVHD PNL. CHECK FOR 65K TO 75K OHMS BETWEEN **FORM DIM BRT** SW TERMS 22 AND 26. IS 65K TO 75K OHMS RESISTANCE PRESENT?
NO
LOCATE OPEN RESISTOR. REPLACE RESISTOR 113R5, 113R6, 113R7, OR 113R8 ON **FORM DIM BRT** SW
YES
REPLACE **FORM DIM BRT** SW



NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT



EXT LTG PANEL



COCKPIT

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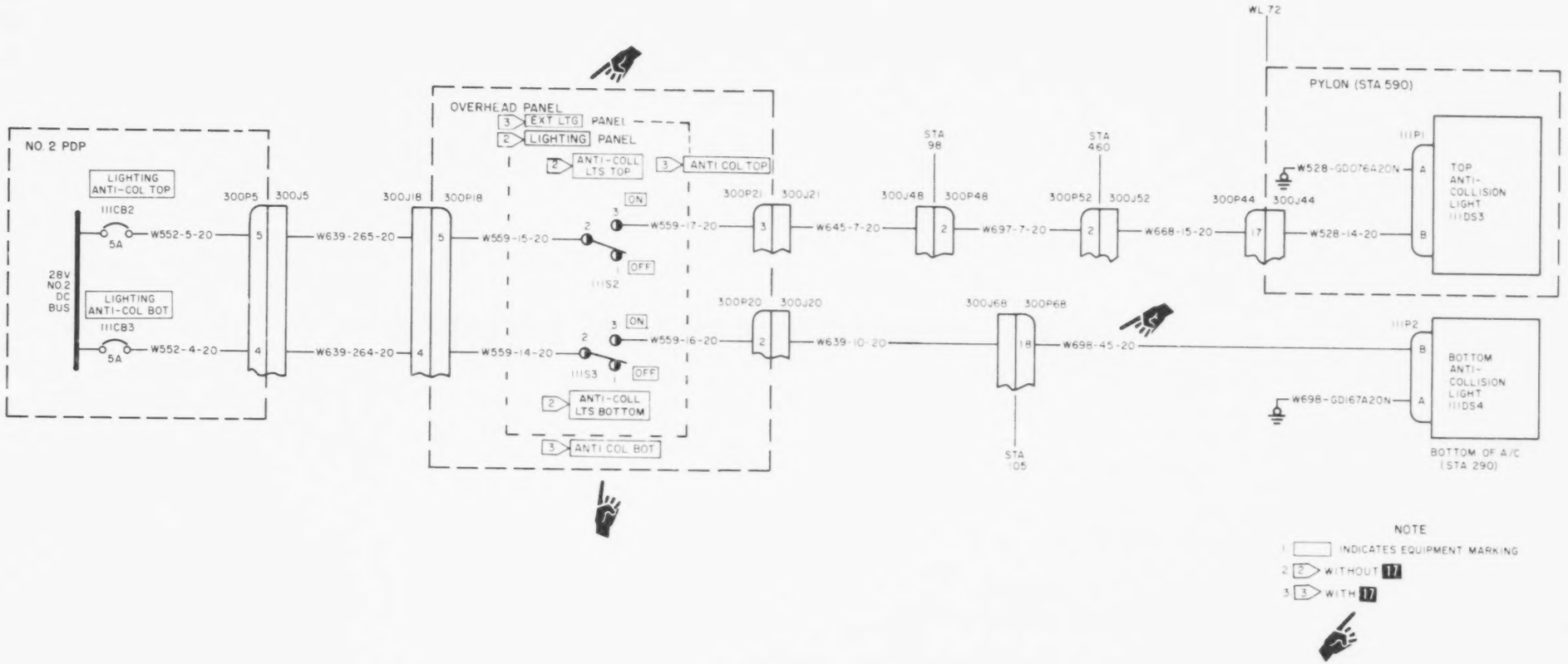
END OF TASK

9-6 ANTICOLLISION LIGHTS

9-6 ANTICOLLISION LIGHTS

9-6.1 ANTICOLLISION LIGHTS WIRING DIAGRAM



9-6.2 ANTICOLLISION LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

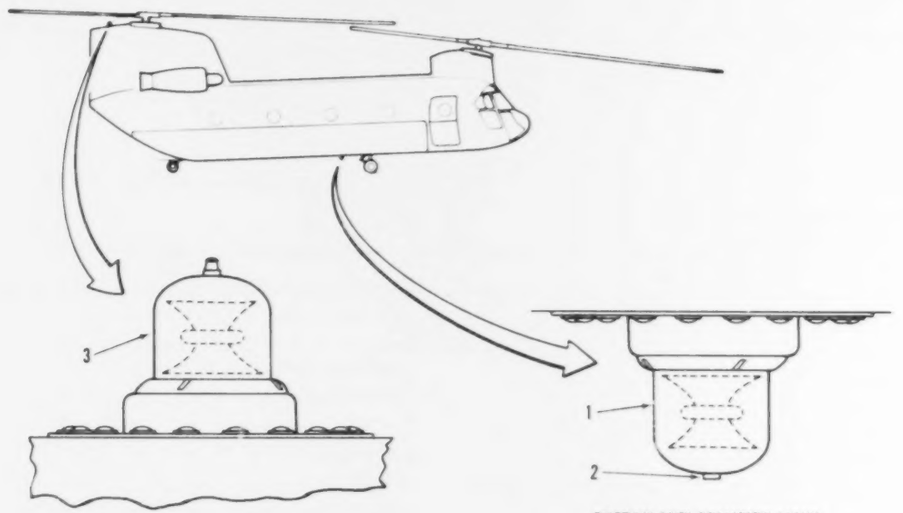
Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Left or Right Pylon Work Platform Open

TASK	RESULT
1. **Check bottom anticollision light (1).**	If light is loose or damaged, tighten or replace it as required. Open drain (2) if there is water in light.
2. **Check top anticollision light (3).**	If light is loose or damaged, tighten or replace it as required.
3. **Check ANTI-COLL LTS switches (4)** on LIGHTING panel or **ANTI COL** switches (4) on EXT LTG panel as applicable.	If switches are loose or damaged, tighten or replace them as required.

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Left or Right Pylon Work Platform Closed



10343

END OF TASK

9-6.3 ANTICOLLISION LIGHT OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
None

Materials:
None

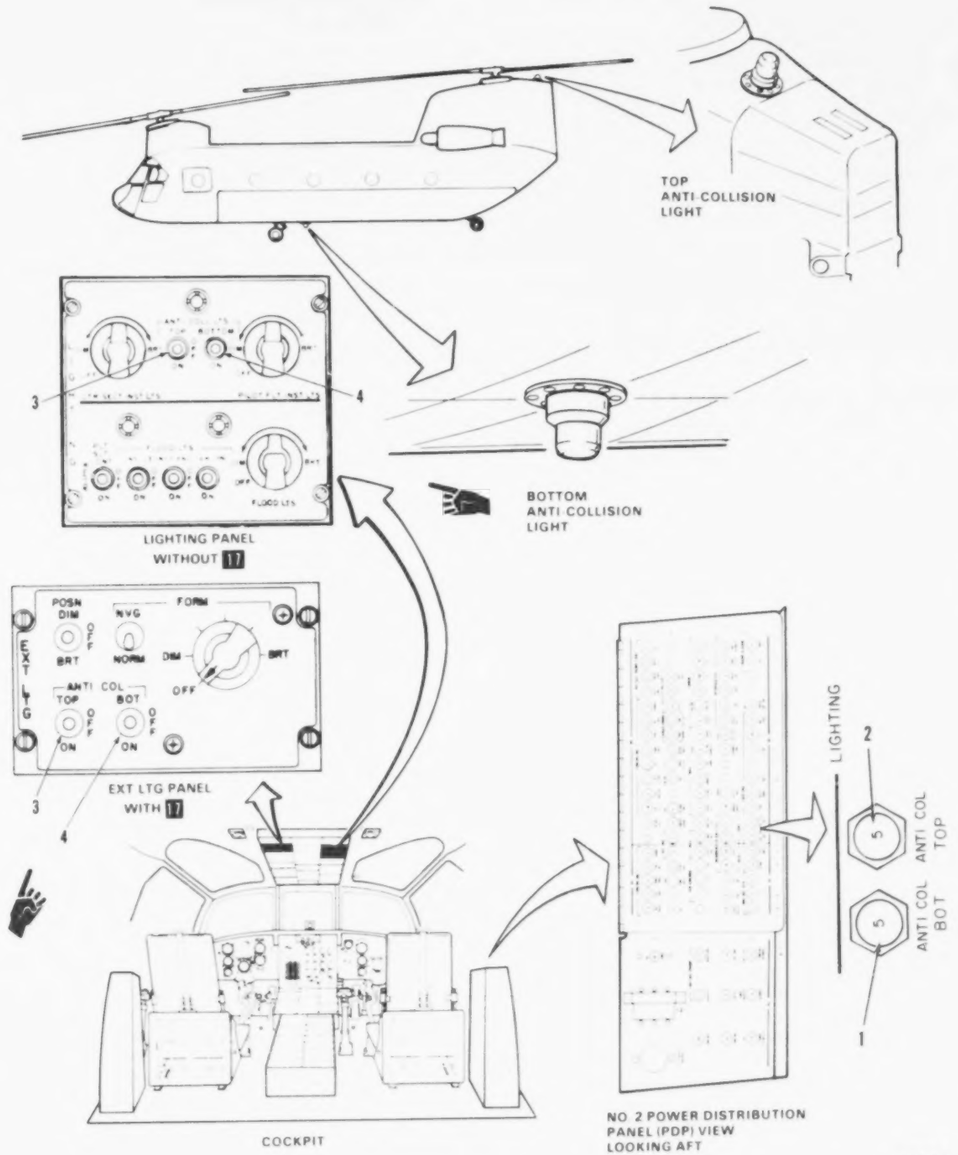
Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Anticollision Lights Visual Check Performed (Task 9-6.2)

TASK	RESULT
1. **Check** that **LIGHTING ANTI-COL BOT circuit breaker (1) and ANTI-COL TOP circuit breaker (2)** are closed.	If LIGHTING ANTI-COL BOT circuit breaker (1) is open, close it. If it opens again, go to task 9-6.4. If LIGHTING ANTI-COL TOP circuit breaker (2) is open, close it. If it opens again, go to task 9-6.4.
2. **Set ANTI-COLL LTS TOP or ANTI-COL TOP switch (3) to ON.**	The top anticollision light shall flash 40 to 60 times per minute. If it does not, go to task 9-6.5.
3. **Set ANTI-COLL LTS BOTTOM or ANTI-COL BOT switch (4) to ON.**	The bottom anticollision light shall flash 40 to 60 times per minute. If it does not, go to task 9-6.5.
4. **Set switches (3) and (4) to OFF.**	Both anticollision lights shall stop flashing.

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Electrical Power Off
Battery Disconnected



END OF TASK

9-6.4 ANTI-COL BOT OR TOP CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

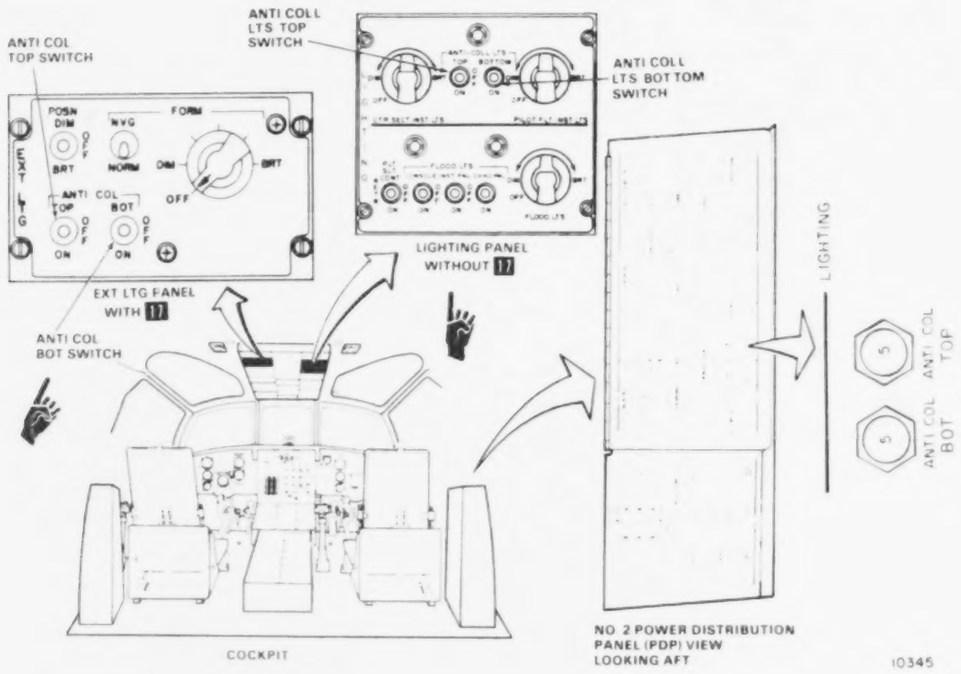
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

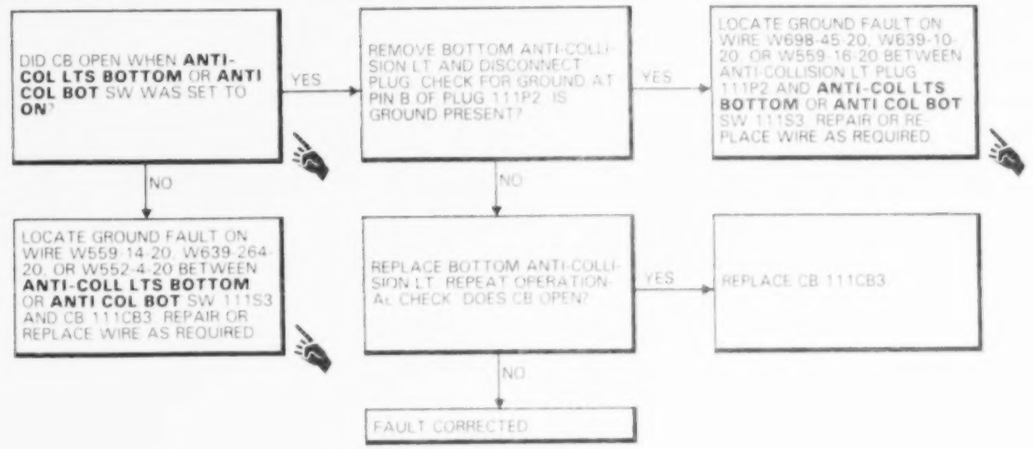
General Safety Instructions:

WARNING

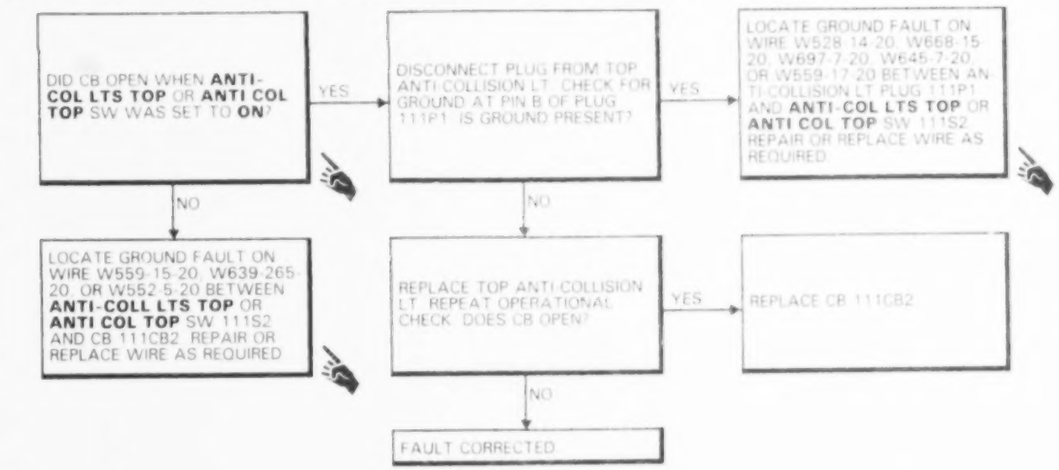
Wait 10 minutes after power has been disconnected before disconnecting anticollision light. High voltage discharge can occur, causing personnel injury.



ANTI-COL BOT CIRCUIT BREAKER DOES NOT STAY CLOSED


DID CB OPEN WHEN **ANTI-COL LTS BOTTOM** OR **ANTI COL BOT** SW WAS SET TO **ON**?
YES
NO
REMOVE BOTTOM ANTI-COLLISION LT AND DISCONNECT PLUG. CHECK FOR GROUND AT PIN B OF PLUG 111P2. IS GROUND PRESENT?
YES
NO
LOCATE GROUND FAULT ON WIRE W698-45-20, W639-10-20, OR W559-16-20 BETWEEN ANTI-COLLISION LT PLUG 111P2 AND **ANTI-COL LTS BOTTOM** OR **ANTI COL BOT** SW 111S3. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE GROUND FAULT ON WIRE W559-14-20, W639-264-20, OR W552-4-20 BETWEEN **ANTI-COLL LTS BOTTOM** OR **ANTI COL BOT** SW 111S3 AND CB 111CB3. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE BOTTOM ANTI-COLLISION LT. REPEAT OPERATIONAL CHECK. DOES CB OPEN?
YES
NO
REPLACE CB 111CB3.
FAULT CORRECTED.

ANTI-COL TOP CIRCUIT BREAKER DOES NOT STAY CLOSED


DID CB OPEN WHEN **ANTI-COL LTS TOP** OR **ANTI COL TOP** SW WAS SET TO **ON**?
YES
NO
DISCONNECT PLUG FROM TOP ANTI-COLLISION LT. CHECK FOR GROUND AT PIN B OF PLUG 111P1. IS GROUND PRESENT?
YES
NO
LOCATE GROUND FAULT ON WIRE W528-14-20, W668-15-20, W697-7-20, W645-7-20, OR W559-17-20 BETWEEN ANTI-COLLISION LT PLUG 111P1 AND **ANTI-COL LTS TOP** OR **ANTI COL TOP** SW 111S2. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE GROUND FAULT ON WIRE W559-15-20, W639-265-20, OR W552-5-20 BETWEEN **ANTI-COLL LTS TOP** OR **ANTI COL TOP** SW 111S2 AND CB 111CB2. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE TOP ANTI-COLLISION LT. REPEAT OPERATIONAL CHECK. DOES CB OPEN?
YES
NO
REPLACE CB 111CB2.
FAULT CORRECTED.

END OF TASK

9-6.5 ANTICOLLISION LIGHT, TOP OR BOTTOM, DOES NOT FLASH OR DOES NOT FLASH 40-60 TIMES/MINUTE

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician (2)

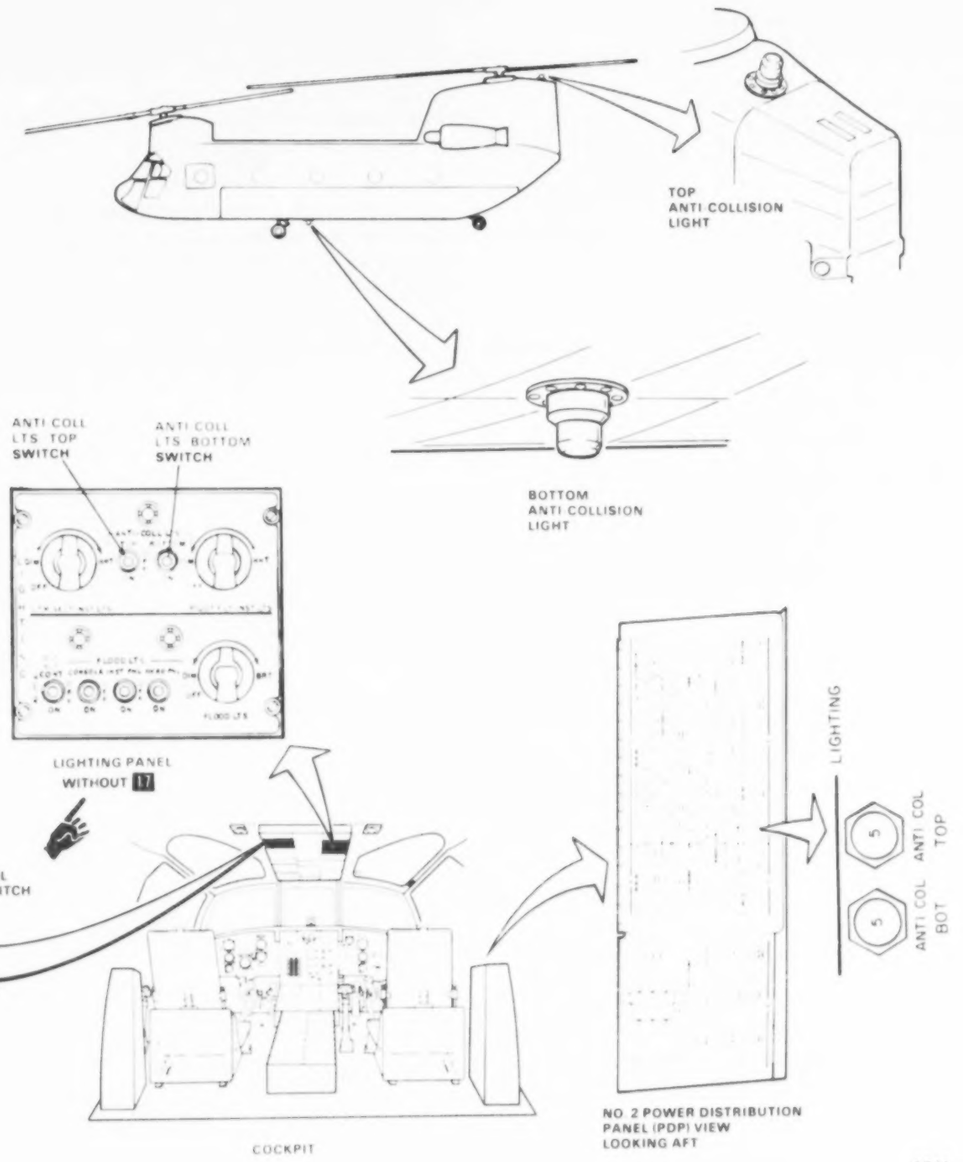
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On

General Safety Instructions:

WARNING

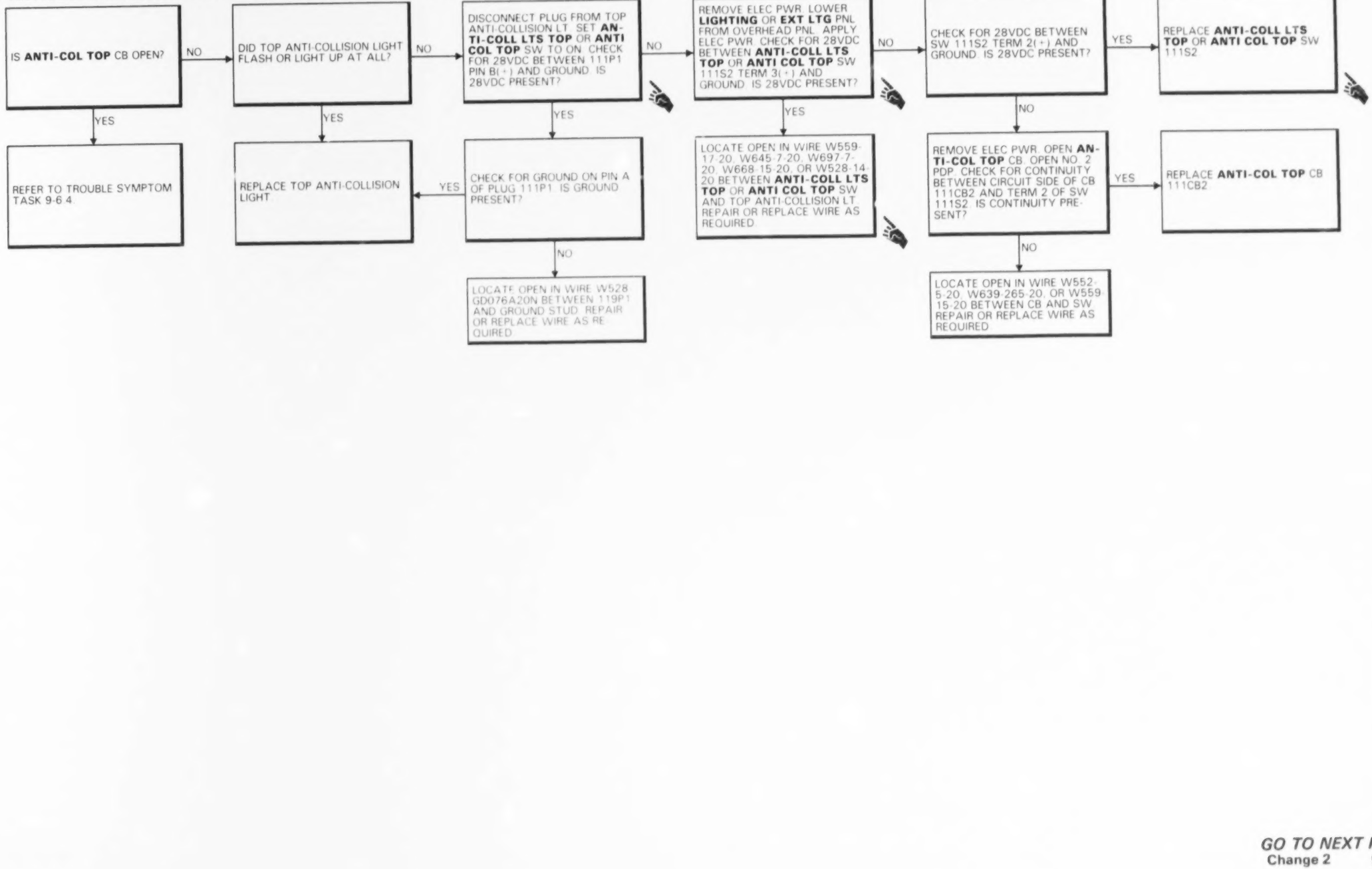
Wait 10 minutes after power has been disconnected before disconnecting anticollision light connector. High voltage discharge can occur, causing personnel injury.



GO TO NEXT PAGE

9-6.5 ANTICOLLISION LIGHT, TOP OR BOTTOM, DOES NOT FLASH OR DOES NOT FLASH 40-60 TIMES/MINUTE (Continued)

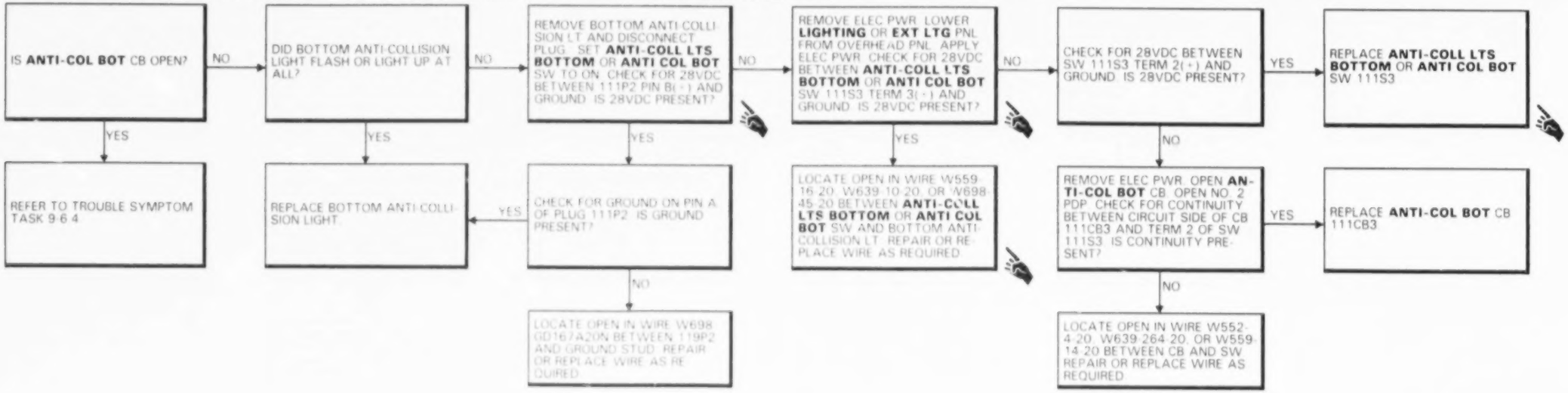
TOP ANTICOLLISION LIGHT DOES NOT FLASH OR DOES NOT FLASH 40-60 TIMES/MINUTE


IS ANTI-COL TOP CB OPEN?
NO
YES
REFER TO TROUBLE SYMPTOM TASK 9-6.4.
DID TOP ANTI-COLLISION LIGHT FLASH OR LIGHT UP AT ALL?
NO
YES
REPLACE TOP ANTI-COLLISION LIGHT.
DISCONNECT PLUG FROM TOP ANTI-COLLISION LT. SET ANTI-COLL LTS TOP OR ANTI COL TOP SW TO ON. CHECK FOR 28VDC BETWEEN 111P1 PIN B(+) AND GROUND. IS 28VDC PRESENT?
NO
YES
CHECK FOR GROUND ON PIN A OF PLUG 111P1. IS GROUND PRESENT?
YES
NO
LOCATE OPEN IN WIRE W528-GD076A20N BETWEEN 119P1 AND GROUND STUD. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELEC PWR. LOWER LIGHTING OR EXT LTG PNL FROM OVERHEAD PNL. APPLY ELEC PWR. CHECK FOR 28VDC BETWEEN ANTI-COLL LTS TOP OR ANTI COL TOP SW 111S2 TERM 3(+) AND GROUND. IS 28VDC PRESENT?
NO
YES
LOCATE OPEN IN WIRE W559-17-20, W645-7-20, W697-7-20, W668-15-20, OR W528-14-20 BETWEEN ANTI-COLL LTS TOP OR ANTI COL TOP SW AND TOP ANTI-COLLISION LT. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR 28VDC BETWEEN SW 111S2 TERM 2(+) AND GROUND. IS 28VDC PRESENT?
YES
REPLACE ANTI-COLL LTS TOP OR ANTI COL TOP SW 111S2.
NO
REMOVE ELEC PWR. OPEN ANTI-COL TOP CB. OPEN NO. 2 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF CB 111CB2 AND TERM 2 OF SW 111S2. IS CONTINUITY PRESENT?
YES
REPLACE ANTI-COL TOP CB 111CB2.
NO
LOCATE OPEN IN WIRE W552-5-20, W639-265-20, OR W559-15-20 BETWEEN CB AND SW. REPAIR OR REPLACE WIRE AS REQUIRED.

GO TO NEXT PAGE

9-6.5 ANTICOLLISION LIGHT, TOP OR BOTTOM, DOES NOT FLASH OR DOES NOT FLASH 40-60 TIMES/MINUTE (Continued)

BOTTOM ANTICOLLISION LIGHT DOES NOT FLASH OR DOES NOT FLASH 40-60 TIMES/MINUTE

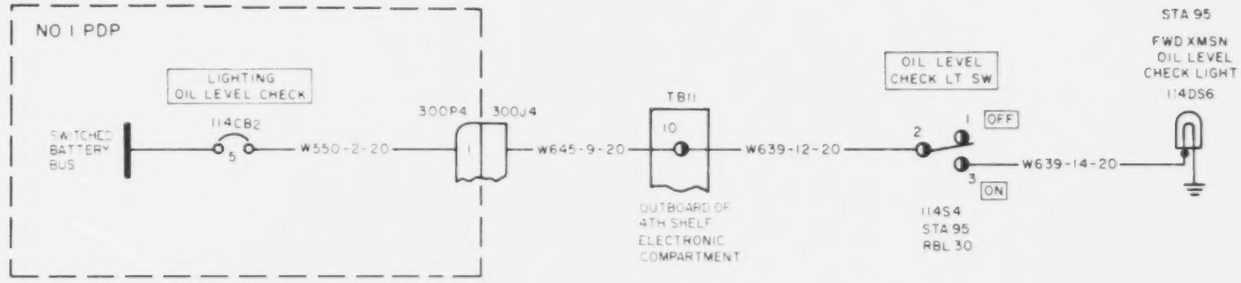

IS ANTI-COL BOT CB OPEN?
NO
YES
REFER TO TROUBLE SYMPTOM TASK 9-6.4
DID BOTTOM ANTI-COLLISION LIGHT FLASH OR LIGHT UP AT ALL?
NO
YES
REPLACE BOTTOM ANTI-COLLISION LIGHT.
REMOVE BOTTOM ANTI-COLLISION LT AND DISCONNECT PLUG. SET ANTI-COLL LTS BOTTOM OR ANTI COL BOT SW TO ON. CHECK FOR 28VDC BETWEEN 111P2 PIN B(+) AND GROUND. IS 28VDC PRESENT?
NO
YES
CHECK FOR GROUND ON PIN A OF PLUG 111P2. IS GROUND PRESENT?
YES
NO
LOCATE OPEN IN WIRE W698-GD167A20N BETWEEN 119P2 AND GROUND STUD. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELEC PWR. LOWER LIGHTING OR EXT LTG PNL FROM OVERHEAD PNL. APPLY ELEC PWR. CHECK FOR 28VDC BETWEEN ANTI-COLL LTS BOTTOM OR ANTI COL BOT SW 111S3 TERM 3(+) AND GROUND. IS 28VDC PRESENT?
NO
YES
LOCATE OPEN IN WIRE W559-16-20, W639-10-20, OR W698-45-20 BETWEEN ANTI-COLL LTS BOTTOM OR ANTI COL BOT SW AND BOTTOM ANTI-COLLISION LT. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR 28VDC BETWEEN SW 111S3 TERM 2(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
REMOVE ELEC PWR. OPEN ANTI-COL BOT CB. OPEN NO. 2 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF CB 111CB3 AND TERM 2 OF SW 111S3. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W552-4-20, W639-264-20, OR W559-14-20 BETWEEN CB AND SW. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE ANTI-COLL LTS BOTTOM OR ANTI COL BOT SW 111S3.
REPLACE ANTI-COL BOT CB 111CB3.

END OF TASK

9-7 FORWARD TRANSMISSION OIL LEVEL CHECK LIGHT

9-7 FORWARD TRANSMISSION OIL LEVEL CHECK LIGHT

9-7.1 FORWARD TRANSMISSION OIL LEVEL CHECK LIGHT WIRING DIAGRAM



NOTE:
☐ INDICATES EQUIPMENT MARKING

114 100
84 x 54

D145-59-SPA

9-7.2 FORWARD TRANSMISSION OIL LEVEL CHECK LIGHT VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

Personnel Required:
68F10 Aircraft Electrician

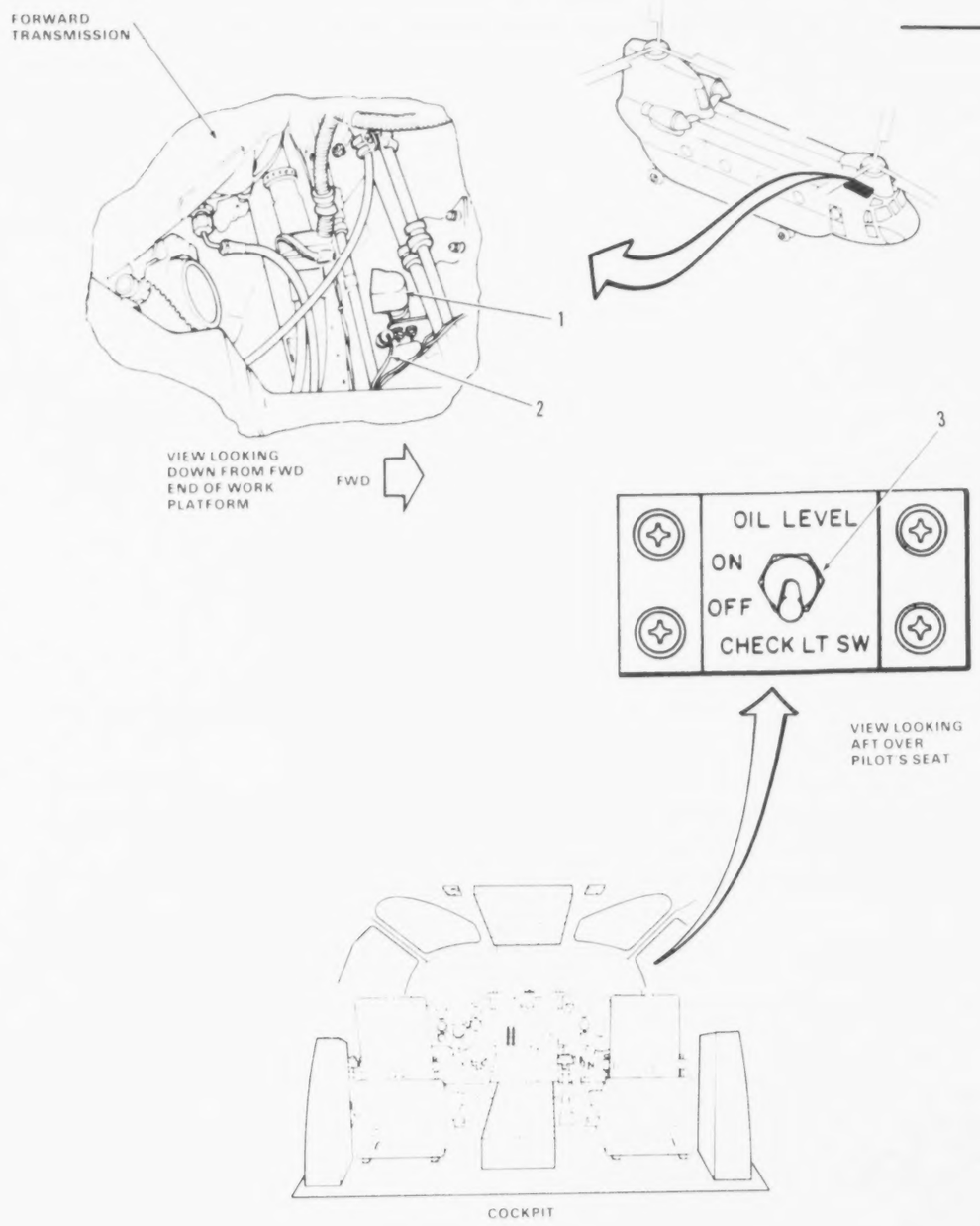
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Right Forward Transmission Work Platform Open

TASK	RESULT
1 **Check light (1).**	If light (1) is loose or damaged, tighten or replace it as required. If wire (2) is damaged, repair or replace it as required.
2 **Check OIL LEVEL CHECK LT SW (3).**	If switch (3) is loose or damaged, tighten or replace it as required.

FOLLOW-ON MAINTENANCE:

None



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END OF TASK

9-7.3 FORWARD TRANSMISSION OIL LEVEL CHECK LIGHT OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
None

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

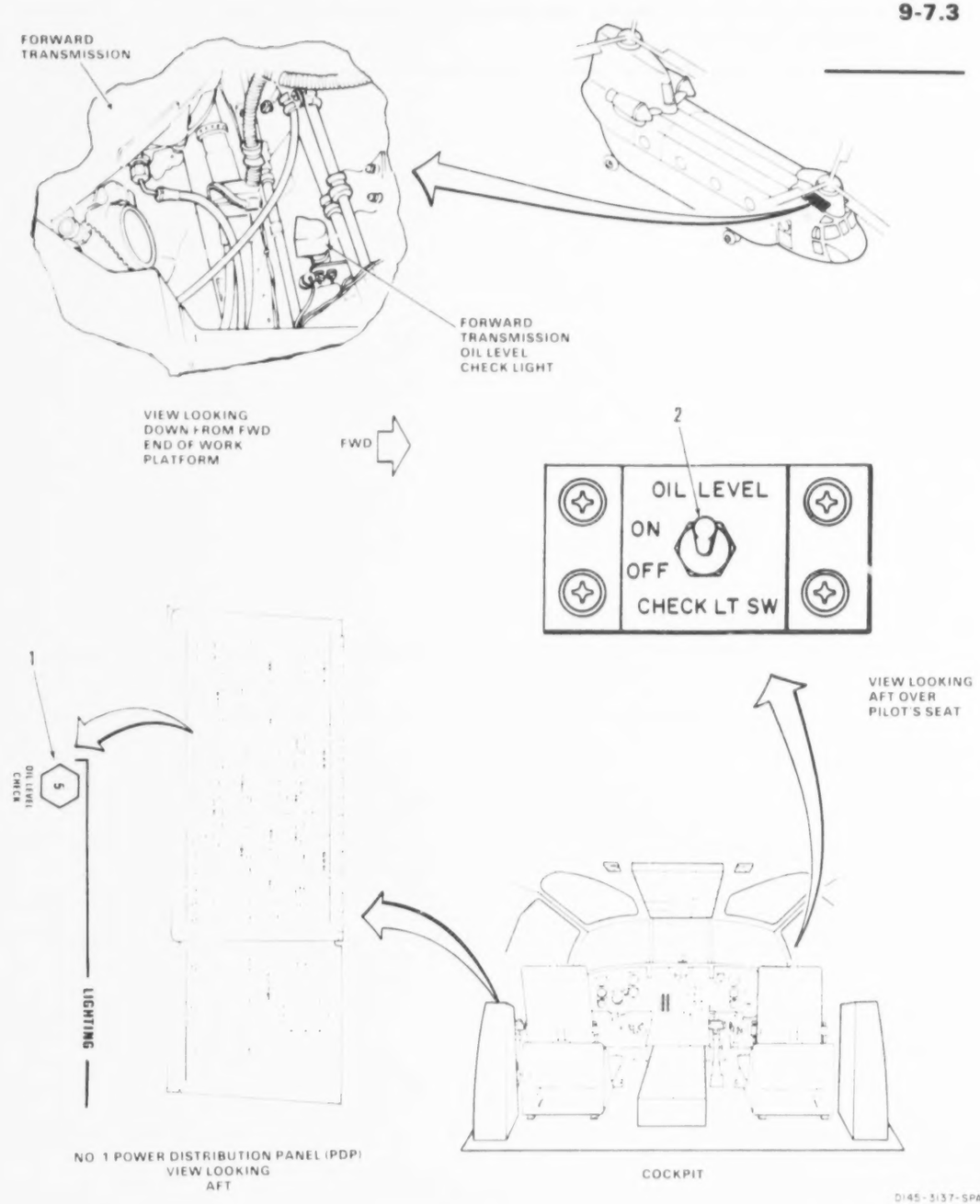
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Visual Check of Forward Transmission Oil Level Check Light Performed (Task 9-7.2)

TASK	RESULTS
1. **Check** that **LIGHTING OIL LEVEL CHECK circuit breaker (1)** is closed.	If OIL LEVEL CHECK circuit breaker (1) is open, close it. If it opens again, go to task 9-7.4.
2. **Set OIL LEVEL CHECK LT SW (2) to ON.**	Oil level check light shall come on. If it is not on, go to task 9-7.5.
3. Set OIL LEVEL CHECK LT SW to OFF.	Forward transmission oil level check light shall go out.

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23:
Battery disconnected
Electrical power off
Close right forward transmission work platform



END OF TASK

9-7.4 OIL LEVEL CHECK CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

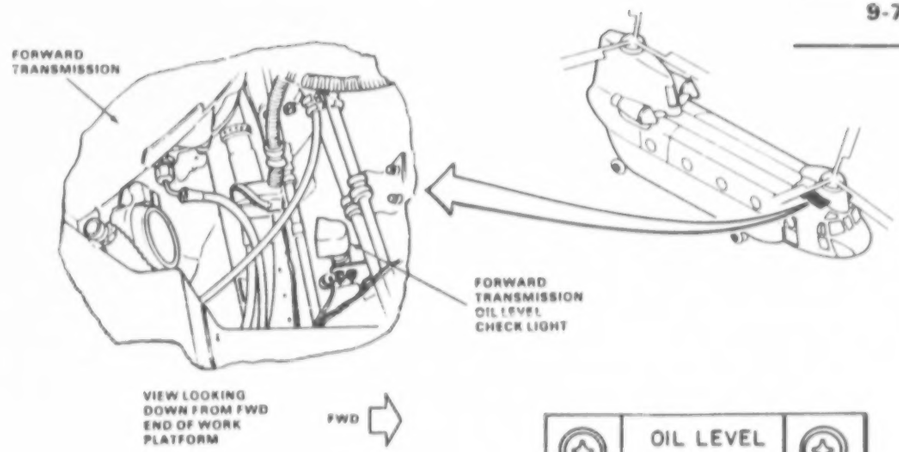
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

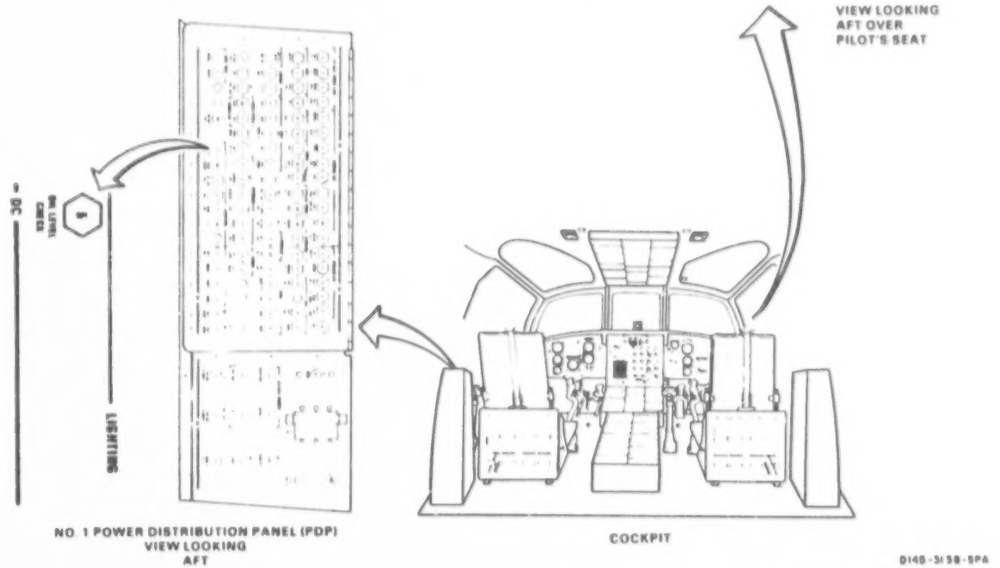
Materials:
None

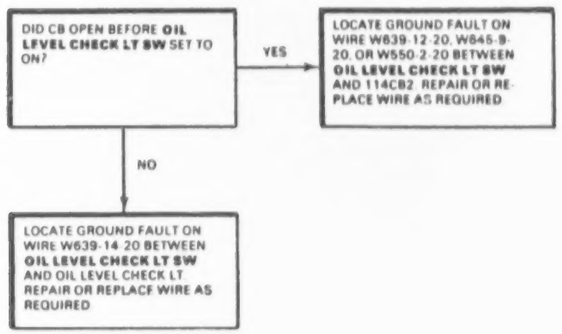
Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off






DID CB OPEN BEFORE OIL LEVEL CHECK LT SW SET TO ON?
YES
LOCATE GROUND FAULT ON WIRE W639-12-20, W645-9-20, OR W550-2-20 BETWEEN OIL LEVEL CHECK LT SW AND 114CB2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE GROUND FAULT ON WIRE W639-14-20 BETWEEN OIL LEVEL CHECK LT SW AND OIL LEVEL CHECK LT. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

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9-7.5 FORWARD TRANSMISSION OIL LEVEL CHECK LIGHT NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

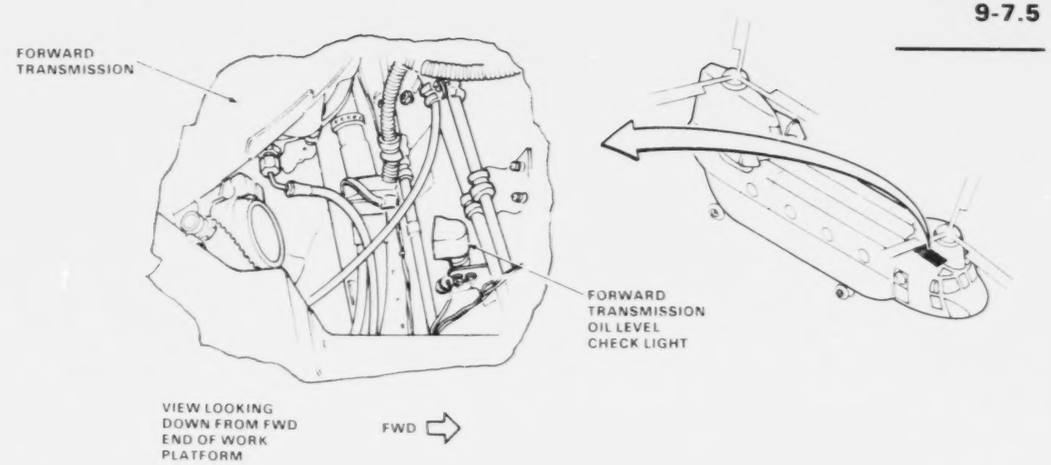
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

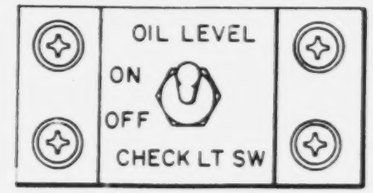
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

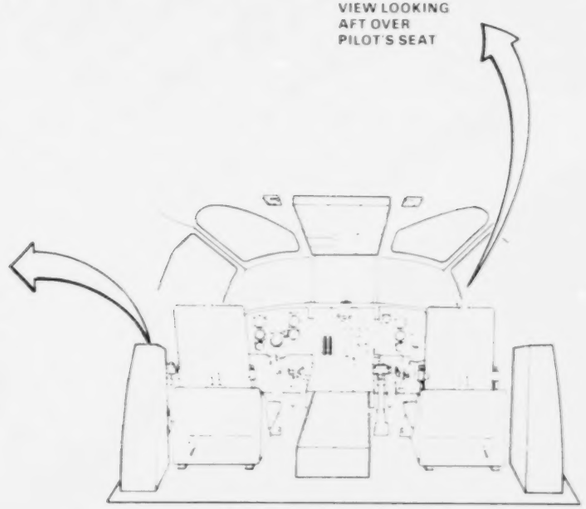
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off

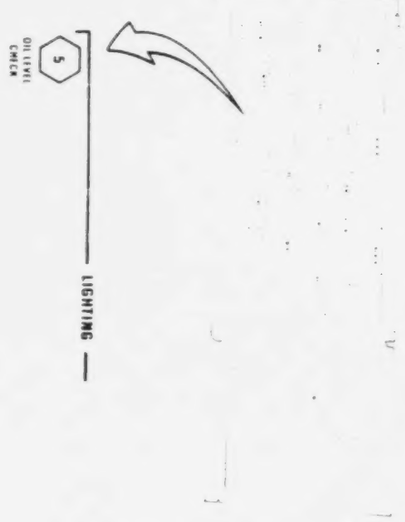




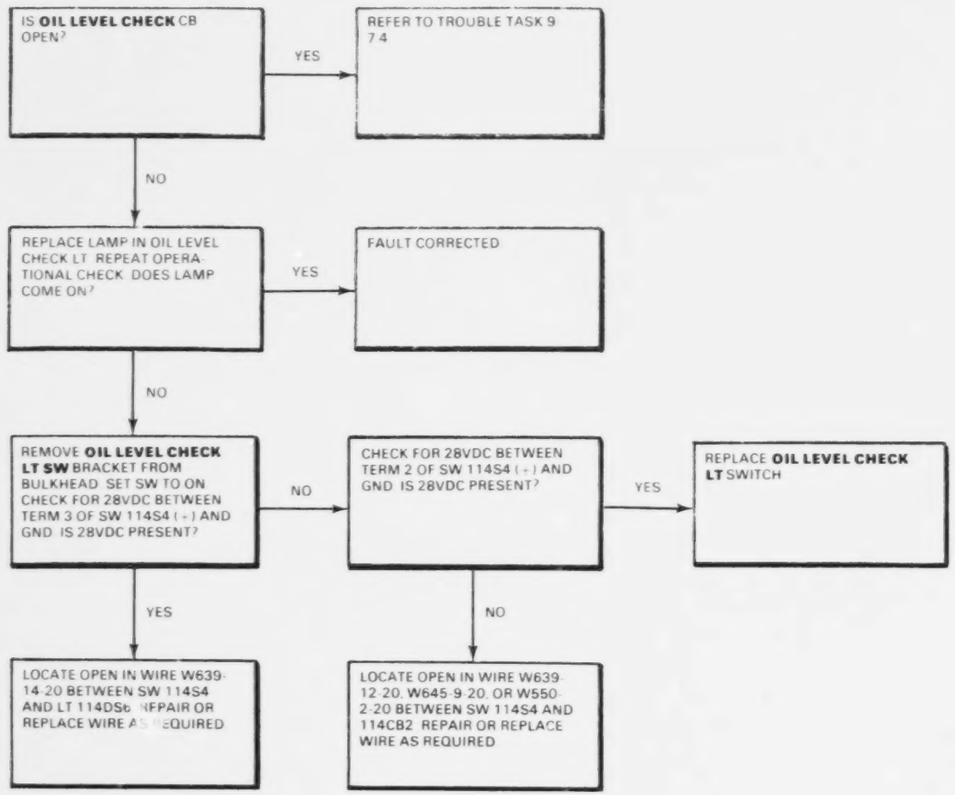
VIEW LOOKING AFT OVER PILOT'S SEAT



COCKPIT



NO 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT


IS OIL LEVEL CHECK CB OPEN?
YES
REFER TO TROUBLE TASK 9 7 4
NO
REPLACE LAMP IN OIL LEVEL CHECK LT. REPEAT OPERATIONAL CHECK. DOES LAMP COME ON?
YES
FAULT CORRECTED
NO
REMOVE OIL LEVEL CHECK LT SW BRACKET FROM BULKHEAD. SET SW TO ON. CHECK FOR 28VDC BETWEEN TERM 3 OF SW 114S4 (+) AND GND. IS 28VDC PRESENT?
NO
CHECK FOR 28VDC BETWEEN TERM 2 OF SW 114S4 (+) AND GND. IS 28VDC PRESENT?
YES
REPLACE OIL LEVEL CHECK LT SWITCH
YES
LOCATE OPEN IN WIRE W639-14-20 BETWEEN SW 114S4 AND LT 114DS6. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W639-12-20, W645-9-20, OR W550-2-20 BETWEEN SW 114S4 AND 114CB2. REPAIR OR REPLACE WIRE AS REQUIRED

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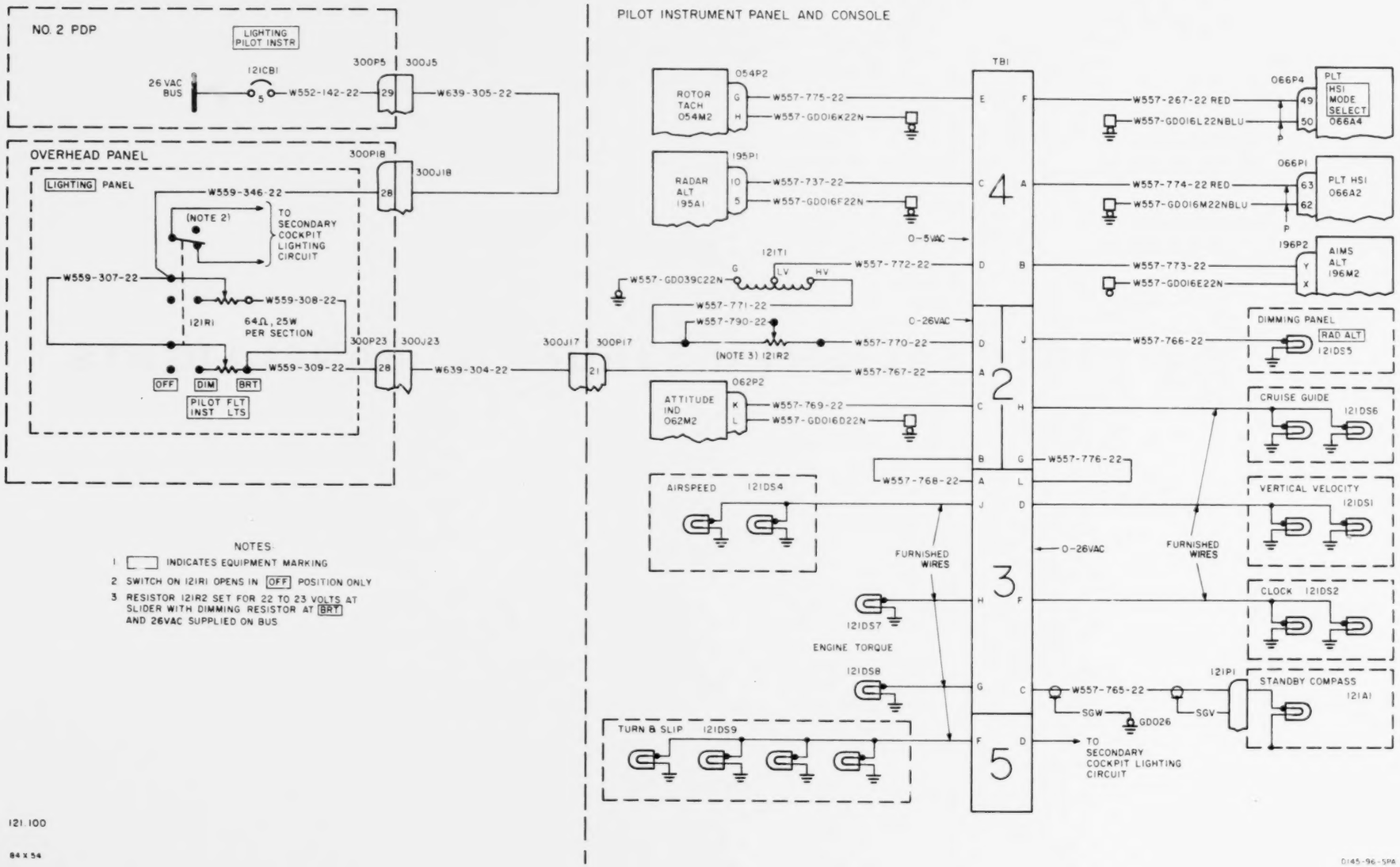
END OF TASK

9-8 PILOTS FLIGHT INSTRUMENT PANEL LIGHTS


NO. 2 PDP
LIGHTING PILOT INSTR
26 VAC BUS
121CB1
W552-142-22
300P5
300J5
W639-305-22
OVERHEAD PANEL
LIGHTING PANEL
300P18
300J18
W559-346-22
(NOTE 2)
TO SECONDARY COCKPIT LIGHTING CIRCUIT
W559-307-22
121R1
64Ω, 25W PER SECTION
W559-308-22
W559-309-22
OFF
DIM
BRT
PILOT FLT INST LTS
300P23
300J23
W639-304-22
300J17
300P17
PILOT INSTRUMENT PANEL AND CONSOLE
TB1
ROTOR TACH 054M2
054P2
W557-775-22
W557-GD016K22N
RADAR ALT 195A1
195P1
W557-737-22
W557-GD016F22N
0-5VAC
121T1
W557-772-22
W557-GD039C22N
W557-771-22
W557-790-22
0-26VAC
(NOTE 3) 121R2
W557-770-22
W557-767-22
ATTITUDE IND 062M2
062P2
W557-769-22
W557-GD016D22N
W557-768-22
AIRSPEED 121DS4
FURNISHED WIRES
121DS7
ENGINE TORQUE
121DS8
TURN & SLIP 121DS9
W557-267-22 RED
W557-GD016L22NBLU
066P4
PLT HSI MODE SELECT 066A4
W557-774-22 RED
W557-GD016M22NBLU
066P1
PLT HSI 066A2
W557-773-22
W557-GD016E22N
196P2
AIMS ALT 196M2
DIMMING PANEL
RAD ALT 121DS5
W557-766-22
CRUISE GUIDE 121DS6
W557-776-22
VERTICAL VELOCITY 121DS1
0-26VAC
CLOCK 121DS2
121P1
STANDBY COMPASS 121A1
W557-765-22
SGW
SGV
GD026
TO SECONDARY COCKPIT LIGHTING CIRCUIT
NOTES:
1. INDICATES EQUIPMENT MARKING
2. SWITCH ON 121R1 OPENS IN OFF POSITION ONLY
3. RESISTOR 121R2 SET FOR 22 TO 23 VOLTS AT SLIDER WITH DIMMING RESISTOR AT BRT AND 26VAC SUPPLIED ON BUS
121.100
84 X 54
0145-96-SPA

9-8.2 PILOT'S FLIGHT INSTRUMENT PANEL LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

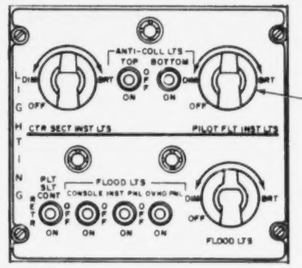
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

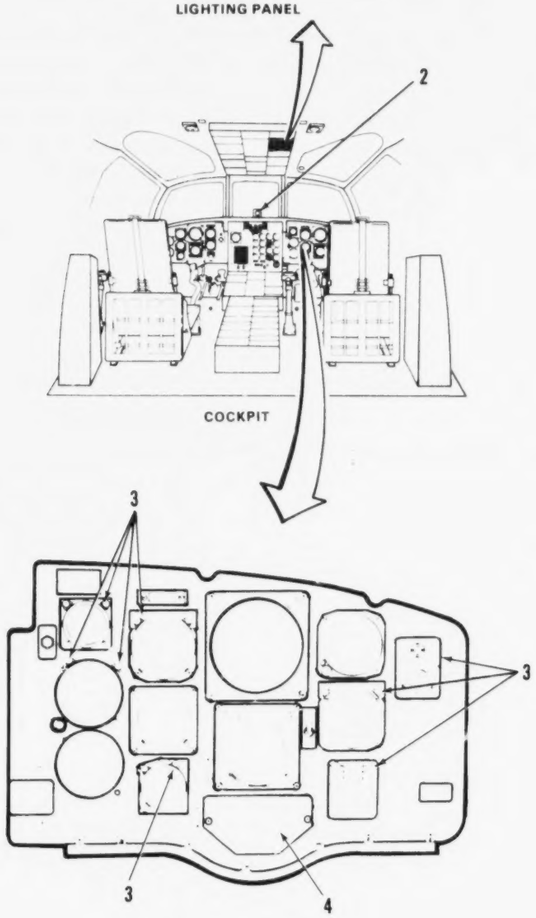
Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check PILOT FLT INST LTS control (1).**	If control (1) is loose or damaged, tighten or replace it as required.
2. **Check back of standby compass (2).**	If wiring is damaged, repair or replace it as required.
3. **Check panel lights (3).**	If any panel light (3) is damaged, replace it.
4. **Check HSI MODE SELECT panel (4).**	If panel (4) is damaged, replace it.

FOLLOW-ON MAINTENANCE:
None



LIGHTING PANEL



PILOT'S INSTRUMENT PANEL

D145-416I-SPA

END OF TASK

9-8.3 PILOT'S FLIGHT INSTRUMENT PANEL LIGHTS OPERATIONAL CHECK 9-8.3

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
None

Materials:
None

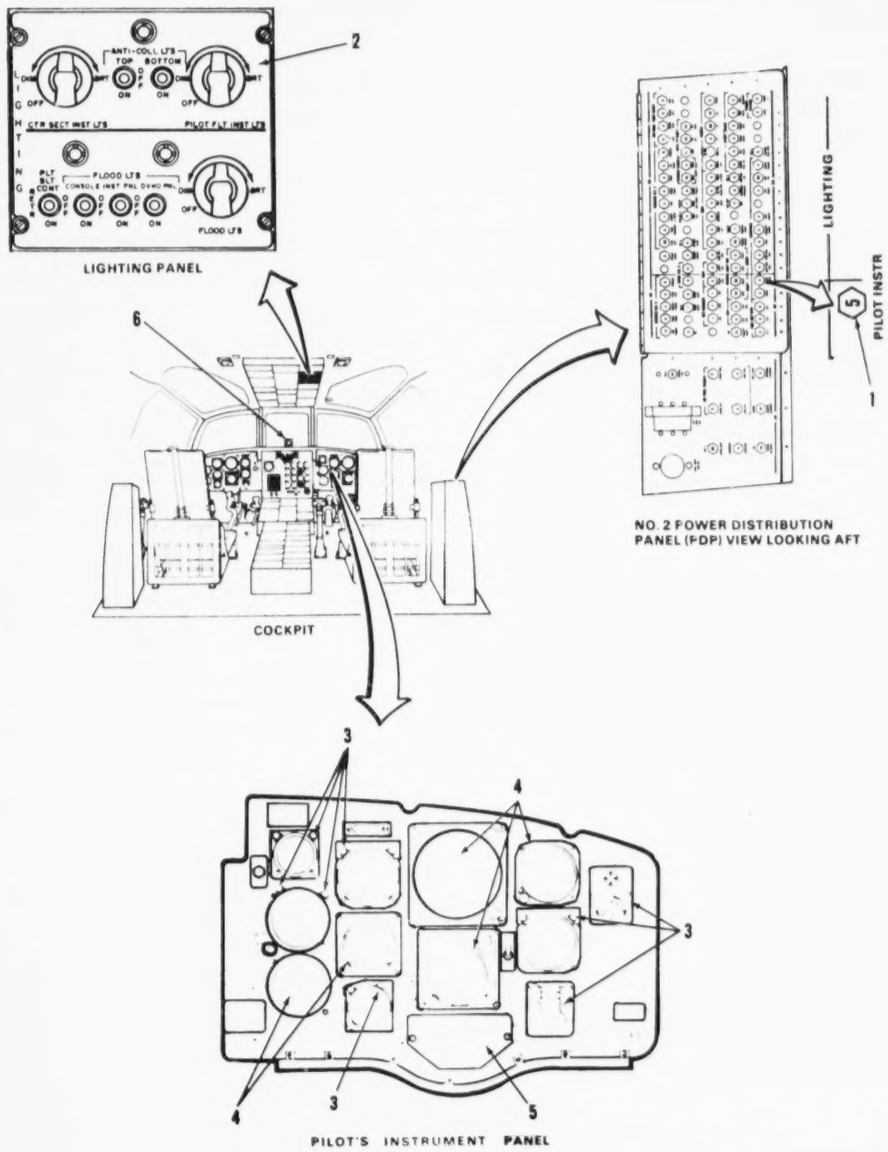
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Pilot's Flight Instrument Panel Lights, Visual Check Performed (Task 9-8.2)

TASK	RESULT
1. **Check** that **LIGHTING PILOT INSTR circuit breaker (1)** is closed.	If PILOT INSTR circuit breaker (1) is open, close it. If it opens again, go to task 9-8.4.
2. **Turn PILOT FLT INST LTS control (2) from OFF through DIM to BRT.**	Following lights shall come on and increase in brightness as control (2) is rotated to BRT: a. Panel lights (3). b. Internal lights in indicators (4). c. Panel lights and switch captions VOR, DOP, FM, and CMD on HSI MODE SELECT panel (5). d. Light in standby compass (6). If any light is not lit, go to task 9-8.5. If lights do not increase in brightness, replace PILOT FLT INST LTS control (2).
3. **Turn PILOT FLT INST LTS control (2) to OFF.**	All pilot's flight instrument panel lights shall go out. If they do not, replace PILOT FLT INST LTS control (2).

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Electrical Power Off
Battery Disconnected



D145-4162-SPA

END OF TASK

9-8.4 PILOT INSTR CIRCUIT BREAKER DOES NOT STAY CLOSED 9-8.4

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

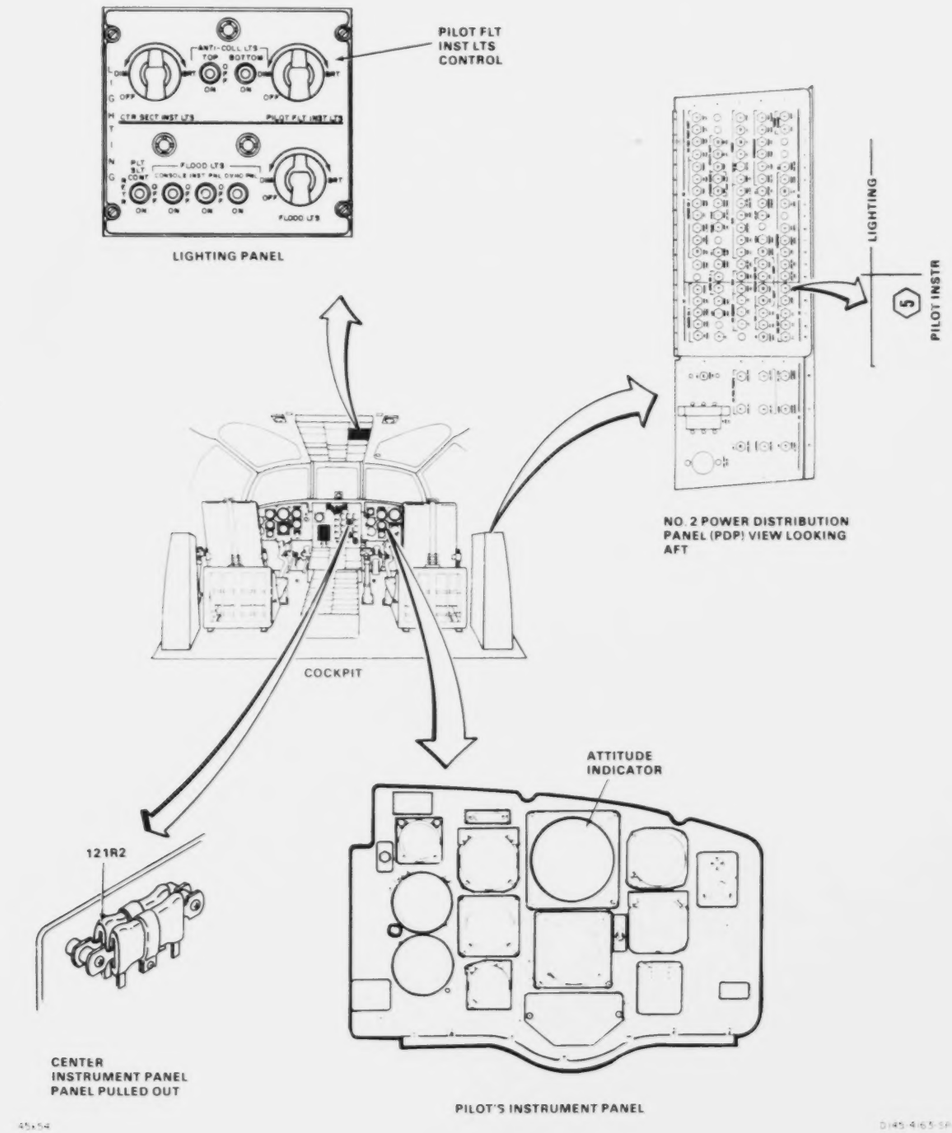
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



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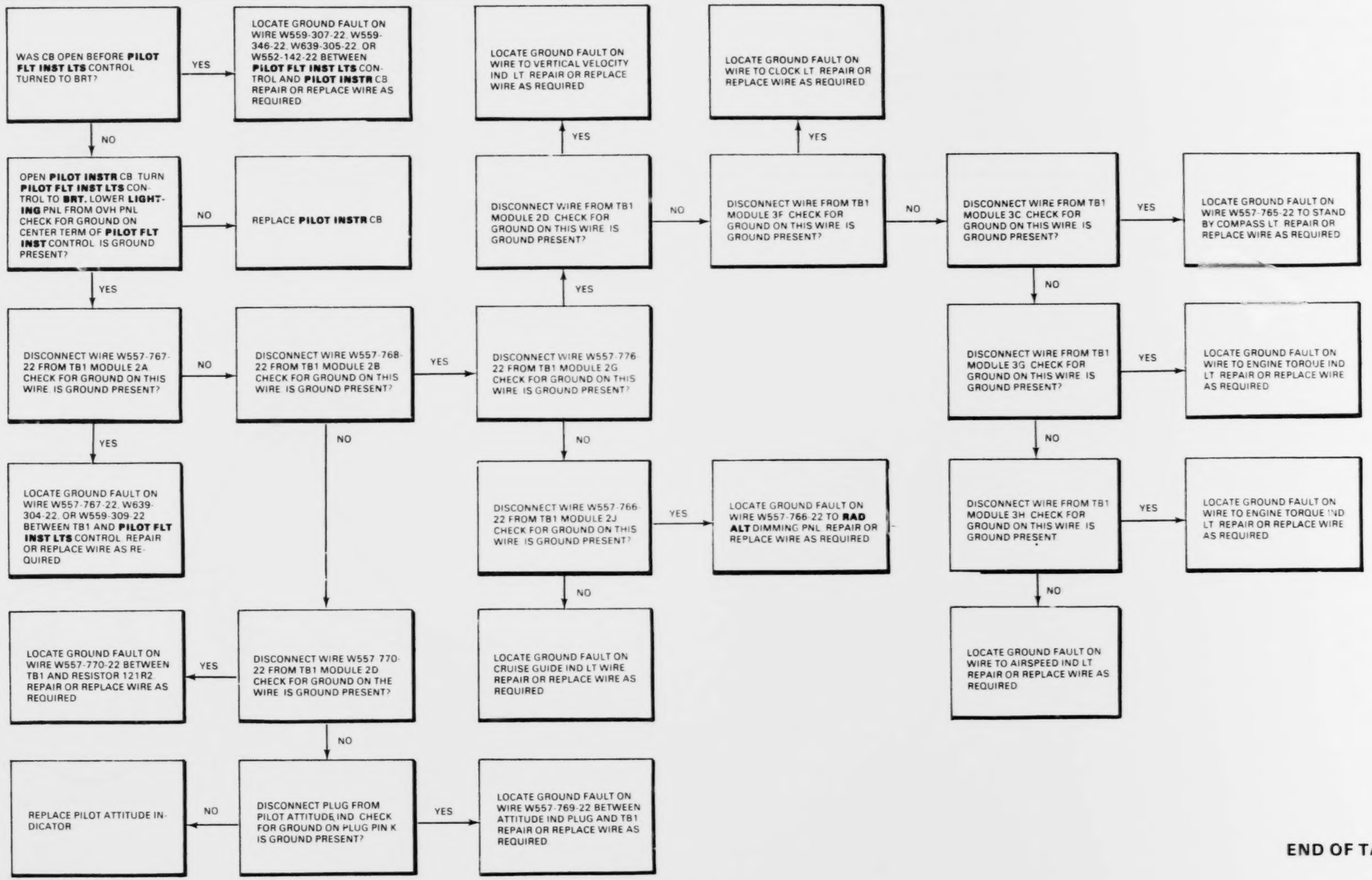
9-8.4 PILOT INSTR CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)


WAS CB OPEN BEFORE PILOT FLT INST LTS CONTROL TURNED TO BRT?
YES
LOCATE GROUND FAULT ON WIRE W559-307-22, W559-346-22, W639-305-22, OR W552-142-22 BETWEEN PILOT FLT INST LTS CONTROL AND PILOT INSTR CB REPAIR OR REPLACE WIRE AS REQUIRED
NO
OPEN PILOT INSTR CB, TURN PILOT FLT INST LTS CONTROL TO BRT, LOWER LIGHTING PNL FROM OVH PNL CHECK FOR GROUND ON CENTER TERM OF PILOT FLT INST CONTROL IS GROUND PRESENT?
NO
REPLACE PILOT INSTR CB
YES
DISCONNECT WIRE W557-767-22 FROM TB1 MODULE 2A CHECK FOR GROUND ON THIS WIRE IS GROUND PRESENT?
NO
DISCONNECT WIRE W557-768-22 FROM TB1 MODULE 2B CHECK FOR GROUND ON THIS WIRE IS GROUND PRESENT?
YES
DISCONNECT WIRE W557-776-22 FROM TB1 MODULE 2G CHECK FOR GROUND ON THIS WIRE IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE TO VERTICAL VELOCITY IND LT REPAIR OR REPLACE WIRE AS REQUIRED
YES
DISCONNECT WIRE FROM TB1 MODULE 2D CHECK FOR GROUND ON THIS WIRE IS GROUND PRESENT?
NO
DISCONNECT WIRE FROM TB1 MODULE 3F CHECK FOR GROUND ON THIS WIRE IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE TO CLOCK LT REPAIR OR REPLACE WIRE AS REQUIRED
NO
DISCONNECT WIRE FROM TB1 MODULE 3C CHECK FOR GROUND ON THIS WIRE IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W557-765-22 TO STAND BY COMPASS LT REPAIR OR REPLACE WIRE AS REQUIRED
NO
DISCONNECT WIRE FROM TB1 MODULE 3G CHECK FOR GROUND ON THIS WIRE IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE TO ENGINE TORQUE IND LT REPAIR OR REPLACE WIRE AS REQUIRED
NO
DISCONNECT WIRE FROM TB1 MODULE 3H CHECK FOR GROUND ON THIS WIRE IS GROUND PRESENT
YES
LOCATE GROUND FAULT ON WIRE TO ENGINE TORQUE IND LT REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE GROUND FAULT ON WIRE TO AIRSPEED IND LT REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE GROUND FAULT ON WIRE W557-767-22, W639-304-22, OR W559-309-22 BETWEEN TB1 AND PILOT FLT INST LTS CONTROL REPAIR OR REPLACE WIRE AS REQUIRED
NO
DISCONNECT WIRE W557-770-22 FROM TB1 MODULE 2D CHECK FOR GROUND ON THE WIRE IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W557-770-22 BETWEEN TB1 AND RESISTOR 121R2 REPAIR OR REPLACE WIRE AS REQUIRED
NO
DISCONNECT PLUG FROM PILOT ATTITUDE IND CHECK FOR GROUND ON PLUG PIN K IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W557-769-22 BETWEEN ATTITUDE IND PLUG AND TB1 REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE PILOT ATTITUDE INDICATOR
NO
DISCONNECT WIRE W557-766-22 FROM TB1 MODULE 2J CHECK FOR GROUND ON THIS WIRE IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W557-766-22 TO RAD ALT DIMMING PNL REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE GROUND FAULT ON CRUISE GUIDE IND LT WIRE REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

9-8.5 PILOT'S FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

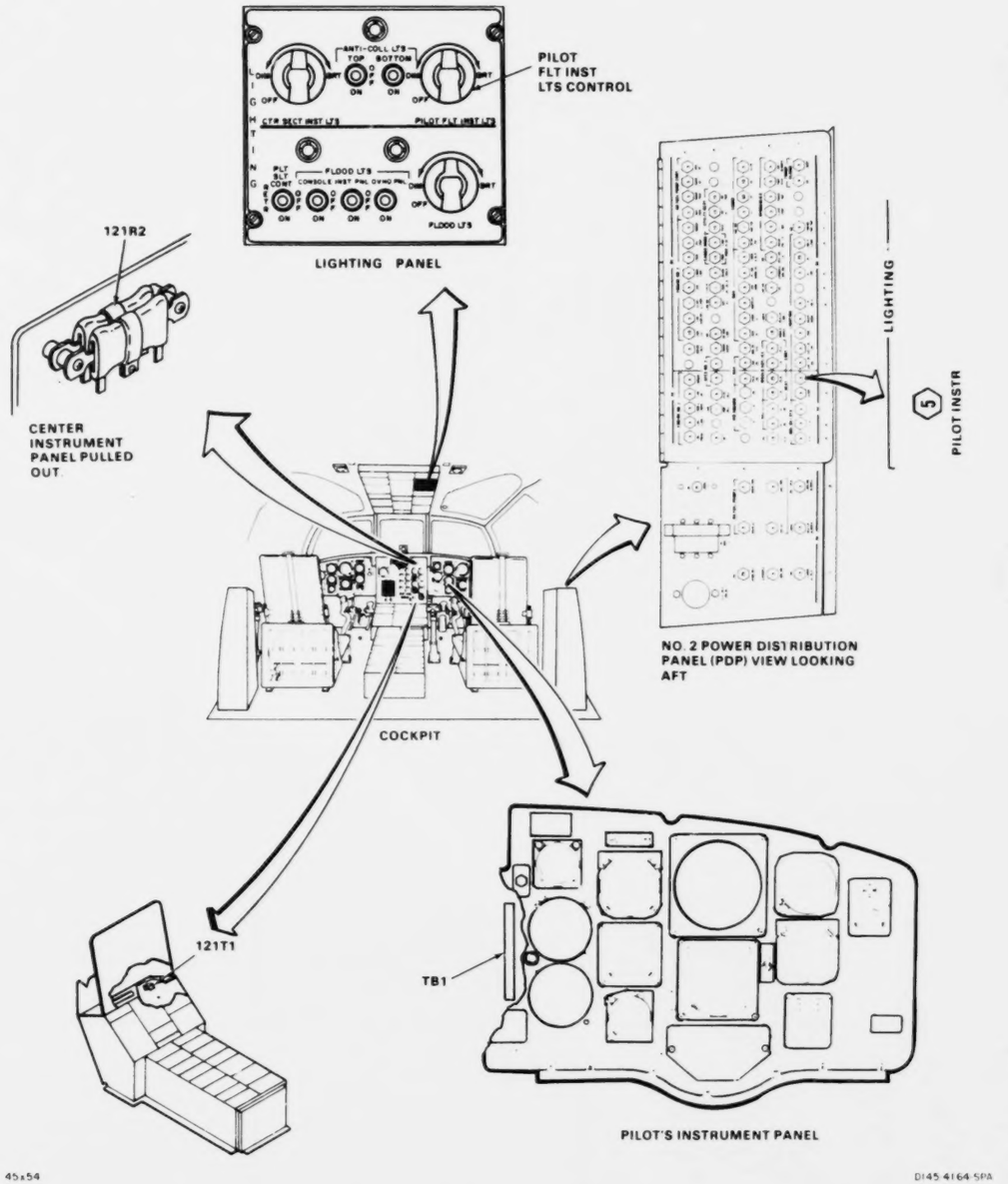
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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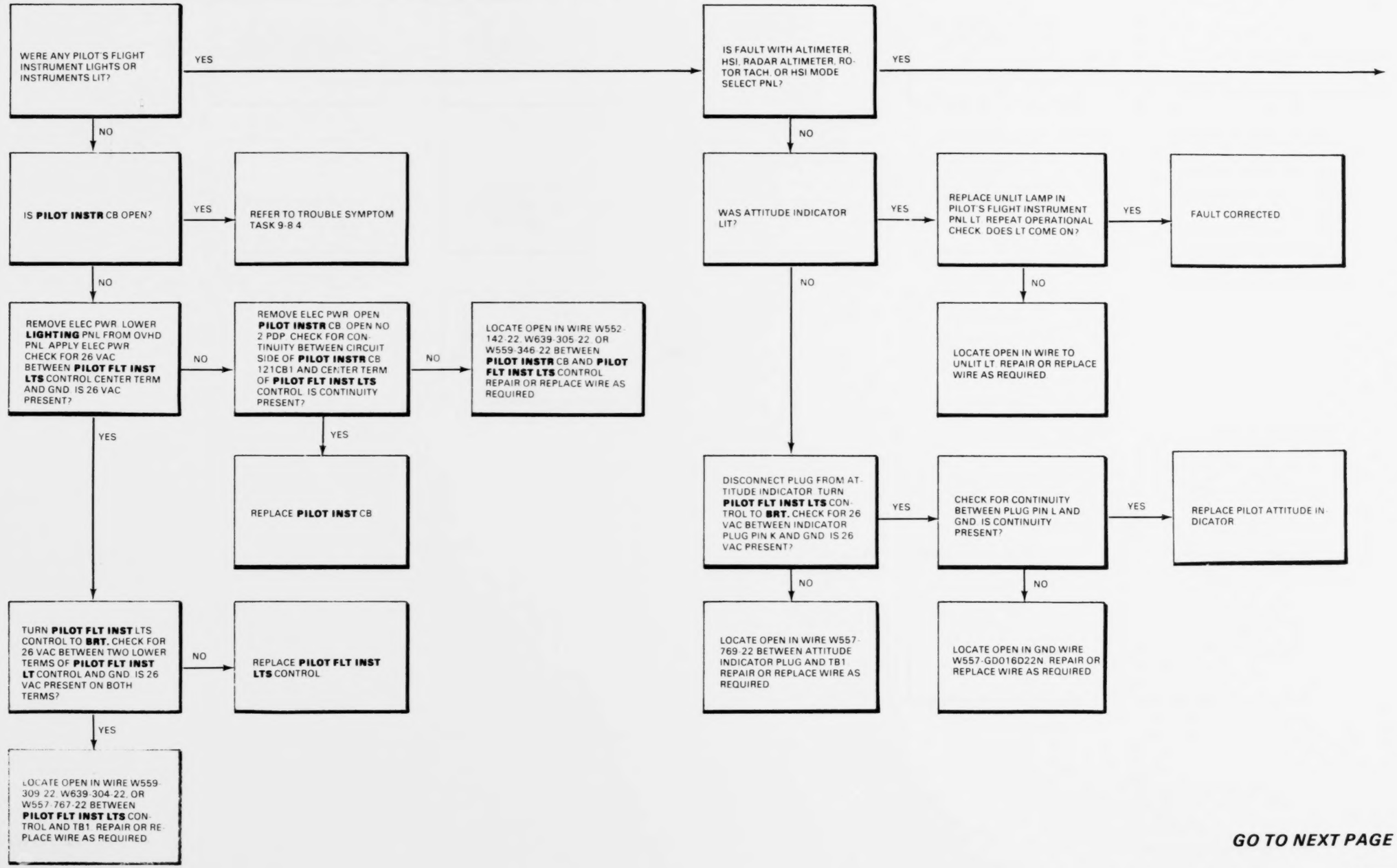
9-8.5 PILOT'S FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT (Continued)


WERE ANY PILOT'S FLIGHT INSTRUMENT LIGHTS OR INSTRUMENTS LIT?
YES
NO
IS PILOT INSTR CB OPEN?
YES
REFER TO TROUBLE SYMPTOM TASK 9-8.4
NO
REMOVE ELEC PWR. LOWER LIGHTING PNL FROM OVHD PNL. APPLY ELEC PWR. CHECK FOR 26 VAC BETWEEN PILOT FLT INST LTS CONTROL CENTER TERM AND GND. IS 26 VAC PRESENT?
NO
REMOVE ELEC PWR. OPEN PILOT INSTR CB. OPEN NO 2 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF PILOT INSTR CB 121CB1 AND CENTER TERM OF PILOT FLT INST LTS CONTROL. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W552-142-22, W639-305-22, OR W559-346-22 BETWEEN PILOT INSTR CB AND PILOT FLT INST LTS CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE PILOT INST CB
YES
TURN PILOT FLT INST LTS CONTROL TO BRT. CHECK FOR 26 VAC BETWEEN TWO LOWER TERMS OF PILOT FLT INST LT CONTROL AND GND. IS 26 VAC PRESENT ON BOTH TERMS?
NO
REPLACE PILOT FLT INST LTS CONTROL
YES
LOCATE OPEN IN WIRE W559-309-22, W639-304-22, OR W557-767-22 BETWEEN PILOT FLT INST LTS CONTROL AND TB1. REPAIR OR REPLACE WIRE AS REQUIRED
IS FAULT WITH ALTIMETER, HSI, RADAR ALTIMETER, ROTOR TACH, OR HSI MODE SELECT PNL?
YES
NO
WAS ATTITUDE INDICATOR LIT?
YES
REPLACE UNLIT LAMP IN PILOT'S FLIGHT INSTRUMENT PNL LT. REPEAT OPERATIONAL CHECK. DOES LT COME ON?
YES
FAULT CORRECTED
NO
LOCATE OPEN IN WIRE TO UNLIT LT. REPAIR OR REPLACE WIRE AS REQUIRED
NO
DISCONNECT PLUG FROM ATTITUDE INDICATOR. TURN PILOT FLT INST LTS CONTROL TO BRT. CHECK FOR 26 VAC BETWEEN INDICATOR PLUG PIN K AND GND. IS 26 VAC PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG PIN L AND GND. IS CONTINUITY PRESENT?
YES
REPLACE PILOT ATTITUDE INDICATOR
NO
LOCATE OPEN IN WIRE W557-769-22 BETWEEN ATTITUDE INDICATOR PLUG AND TB1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN GND WIRE W557-GD016D22N. REPAIR OR REPLACE WIRE AS REQUIRED

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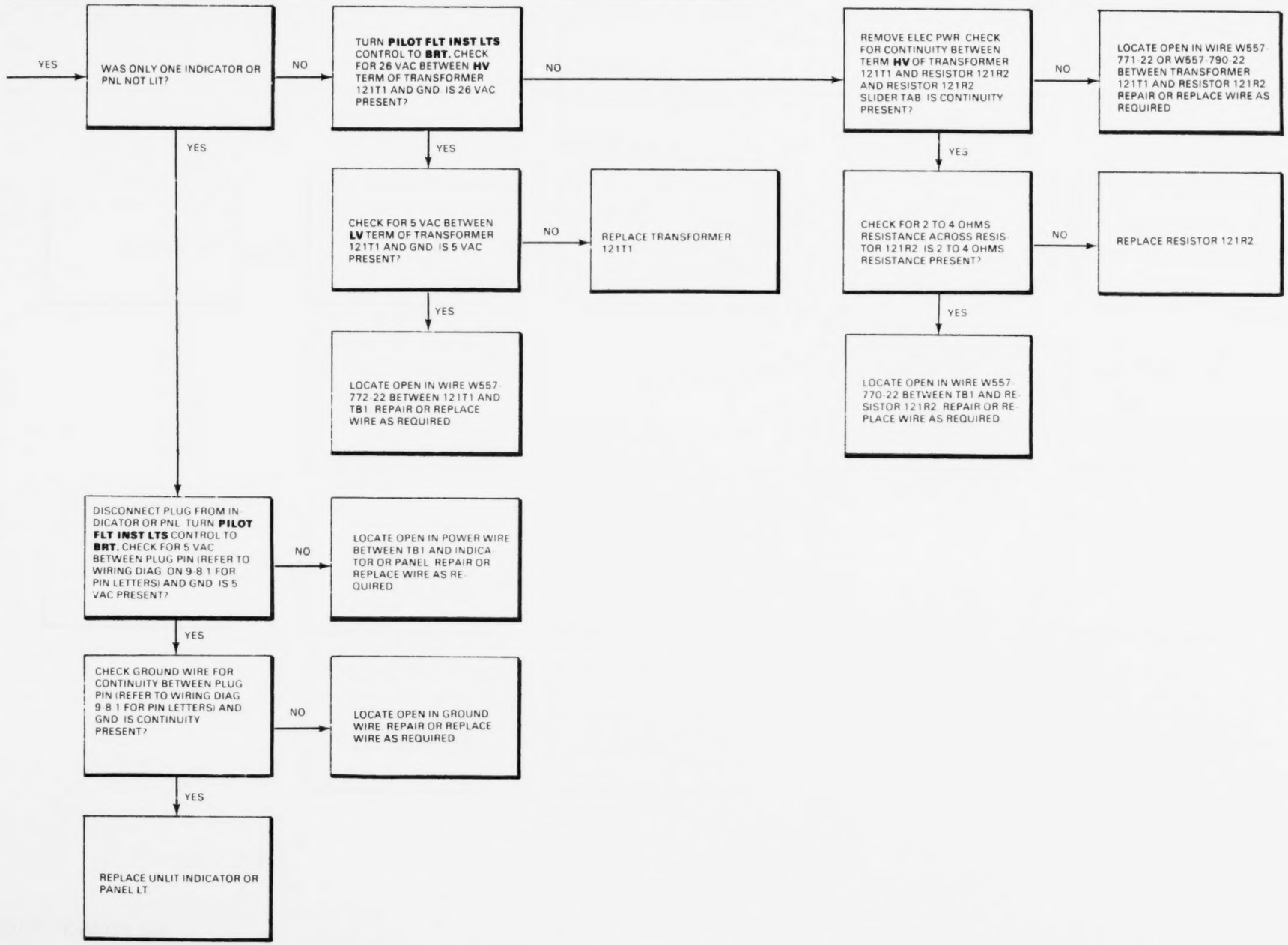
9-8.5 PILOT'S FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT (Continued)


YES
WAS ONLY ONE INDICATOR OR PNL NOT LIT?
NO
TURN PILOT FLT INST LTS CONTROL TO BRT. CHECK FOR 26 VAC BETWEEN HV TERM OF TRANSFORMER 121T1 AND GND IS 26 VAC PRESENT?
NO
REMOVE ELEC PWR. CHECK FOR CONTINUITY BETWEEN TERM HV OF TRANSFORMER 121T1 AND RESISTOR 121R2 AND RESISTOR 121R2 SLIDER TAB IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W557-771-22 OR W557-790-22 BETWEEN TRANSFORMER 121T1 AND RESISTOR 121R2 REPAIR OR REPLACE WIRE AS REQUIRED
YES
YES
CHECK FOR 5 VAC BETWEEN LV TERM OF TRANSFORMER 121T1 AND GND IS 5 VAC PRESENT?
NO
REPLACE TRANSFORMER 121T1
YES
LOCATE OPEN IN WIRE W557-772-22 BETWEEN 121T1 AND TB1 REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR 2 TO 4 OHMS RESISTANCE ACROSS RESISTOR 121R2 IS 2 TO 4 OHMS RESISTANCE PRESENT?
NO
REPLACE RESISTOR 121R2
YES
LOCATE OPEN IN WIRE W557-770-22 BETWEEN TB1 AND RESISTOR 121R2 REPAIR OR REPLACE WIRE AS REQUIRED
YES
DISCONNECT PLUG FROM INDICATOR OR PNL TURN PILOT FLT INST LTS CONTROL TO BRT. CHECK FOR 5 VAC BETWEEN PLUG PIN (REFER TO WIRING DIAG ON 9-8 1 FOR PIN LETTERS) AND GND IS 5 VAC PRESENT?
NO
LOCATE OPEN IN POWER WIRE BETWEEN TB1 AND INDICATOR OR PANEL REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK GROUND WIRE FOR CONTINUITY BETWEEN PLUG PIN (REFER TO WIRING DIAG 9-8 1 FOR PIN LETTERS) AND GND IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN GROUND WIRE REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE UNLIT INDICATOR OR PANEL LT

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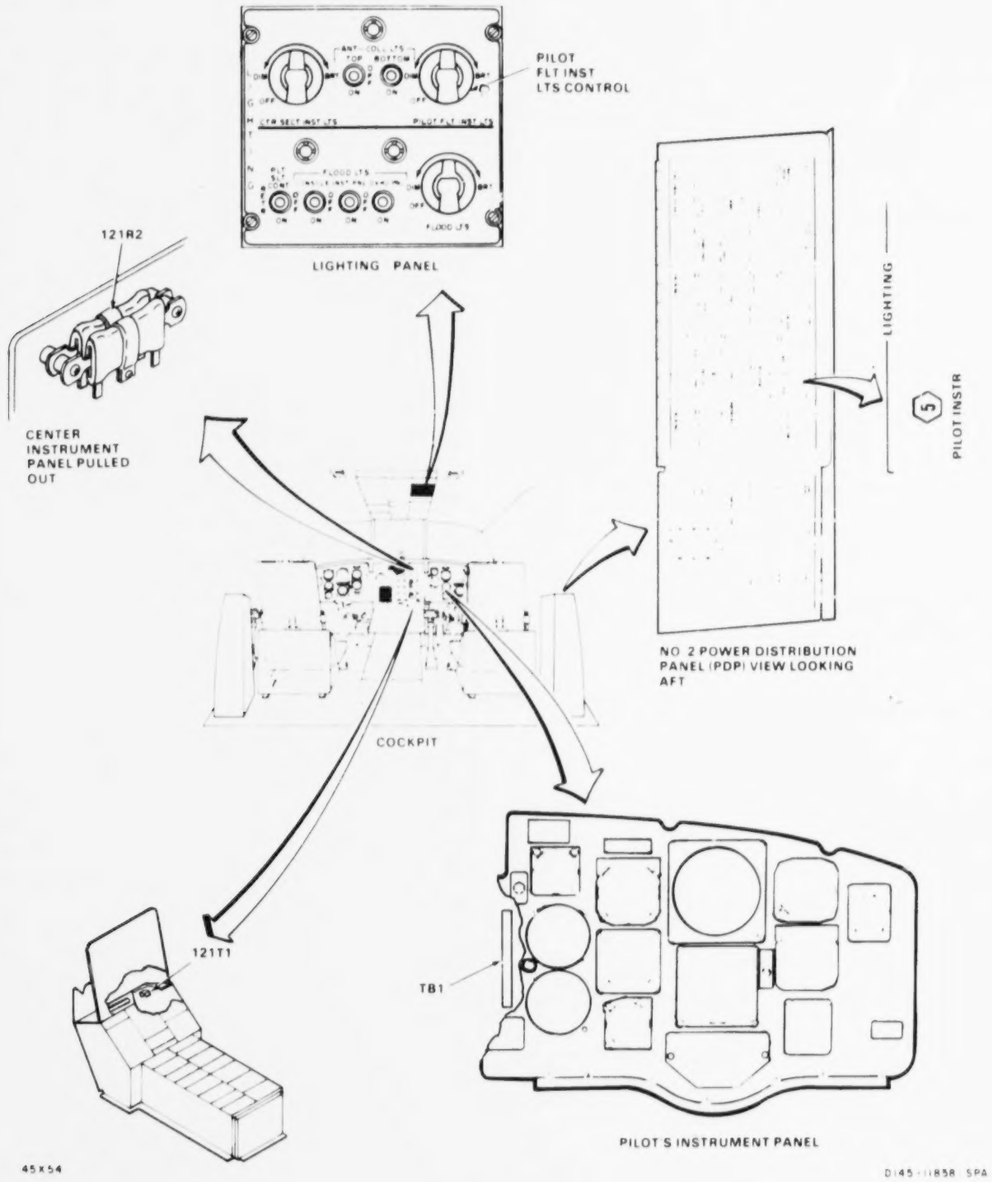
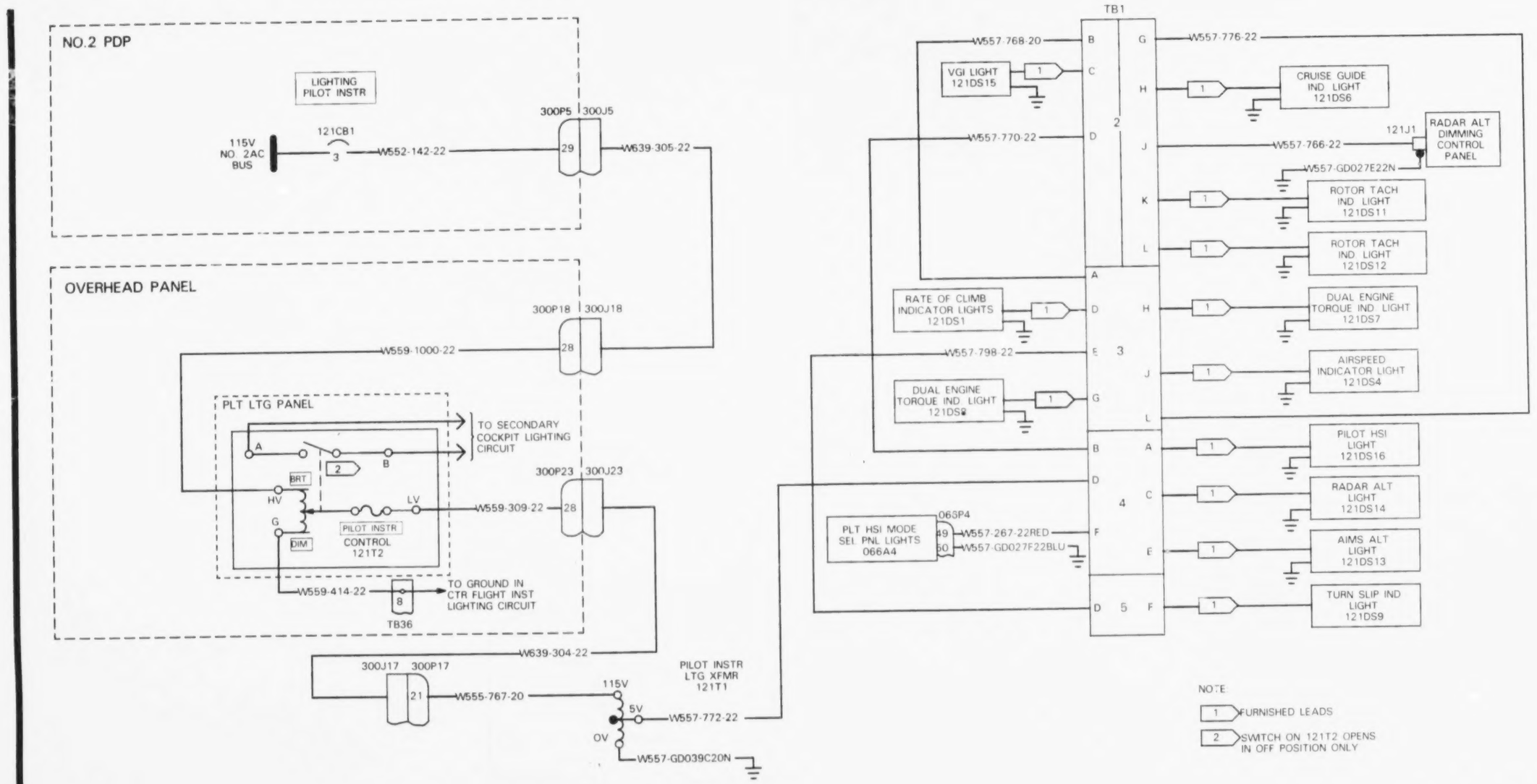
9-8.5 PILOT'S FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT (Continued)



END OF TASK


NO.2 PDP
LIGHTING PILOT INSTR
115V NO. 2AC BUS
121CB1
3
W552-142-22
300P5
300J5
29
W639-305-22
OVERHEAD PANEL
300P18
300J18
28
W559-1000-22
PLT LTG PANEL
TO SECONDARY COCKPIT LIGHTING CIRCUIT
A
B
2
BRT
HV
LV
G
DIM
PILOT INSTR CONTROL 121T2
300P23
300J23
28
W559-309-22
W559-414-22
8
TO GROUND IN CTR FLIGHT INST LIGHTING CIRCUIT
TB36
W639-304-22
300J17
300P17
21
W555-767-20
115V
5V
0V
PILOT INSTR LTG XFMR 121T1
W557-772-22
W557-GD039C20N
TB1
W557-768-20
VGI LIGHT 121DS15
1
C
W557-770-22
D
2
B
G
W557-776-22
H
CRUISE GUIDE IND LIGHT 121DS6
J
121J1
RADAR ALT DIMMING CONTROL PANEL
W557-766-22
W557-GD027E22N
K
ROTOR TACH IND LIGHT 121DS11
L
ROTOR TACH IND LIGHT 121DS12
A
RATE OF CLIMB INDICATOR LIGHTS 121DS1
D
H
DUAL ENGINE TORQUE IND LIGHT 121DS7
W557-798-22
E
3
J
AIRSPEED INDICATOR LIGHT 121DS4
DUAL ENGINE TORQUE IND LIGHT 121DS8
G
L
B
A
PILOT HSI LIGHT 121DS16
D
4
C
RADAR ALT LIGHT 121DS14
066P4
PLT HSI MODE SEL PNL LIGHTS 066A4
49
50
W557-267-22RED
W557-GD027F22BLU
F
E
AIMS ALT LIGHT 121DS13
D
5
F
TURN SLIP IND LIGHT 121DS9
NOTE
1 FURNISHED LEADS
2 SWITCH ON 121T2 OPENS IN OFF POSITION ONLY
A10347

9-8.7 PILOT'S FLIGHT INSTRUMENT PANEL LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

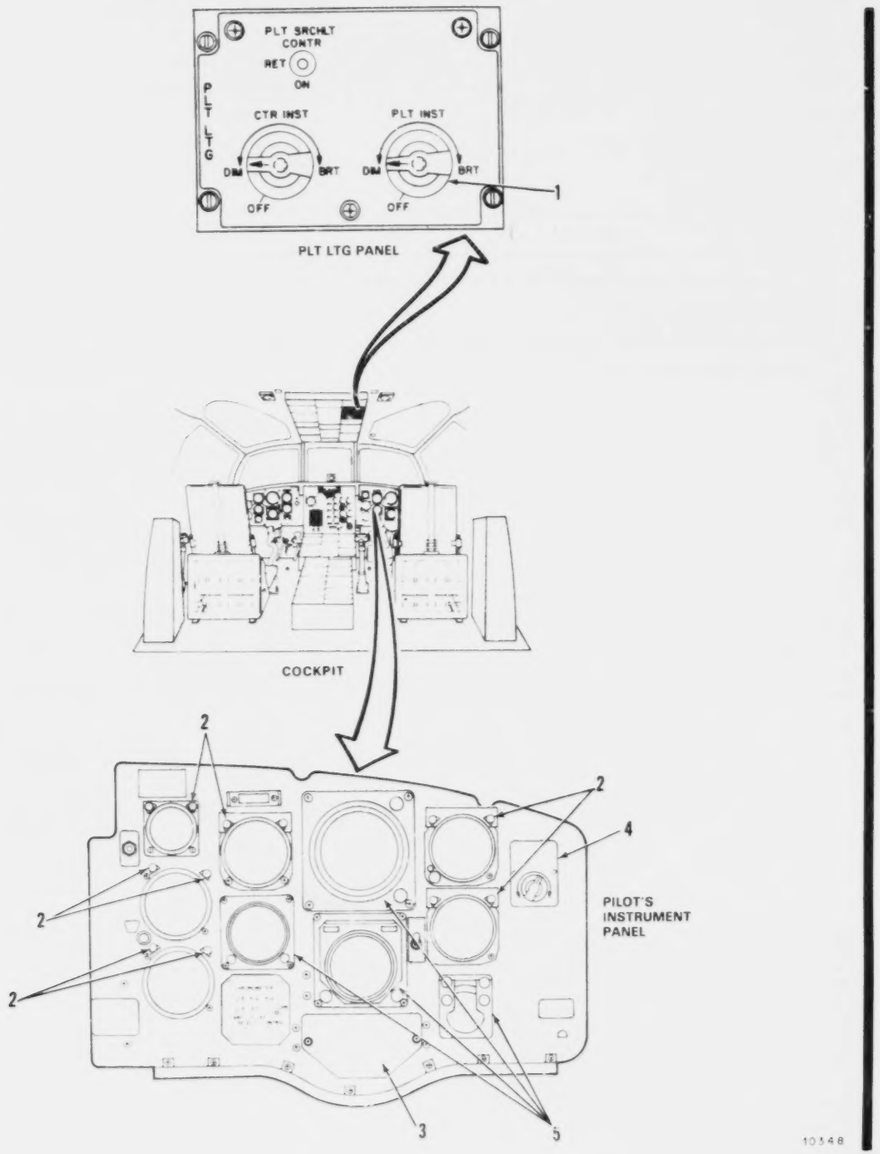
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check PILOT INST lights control (1).**	If control (1) is loose or damaged, tighten or replace it as required.
2. **Check panel lights (2).**	If any panel light (2) is damaged, replace it.
3. **Check HSI MODE SELECT panel (3).**	If panel (3) is damaged, replace it.
4. Check **RAD ALT DIM** panel (4).	If panel (4) is damaged, replace it.
5. Check lighting, bezels (5).	If any bezel (5) is damaged, replace it.

FOLLOW-ON MAINTENANCE:
None



END OF TASK

9-8.8 PILOT'S FLIGHT INSTRUMENT PANEL LIGHTS OPERATIONAL CHECK 9-8.8

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
None

Materials:
None

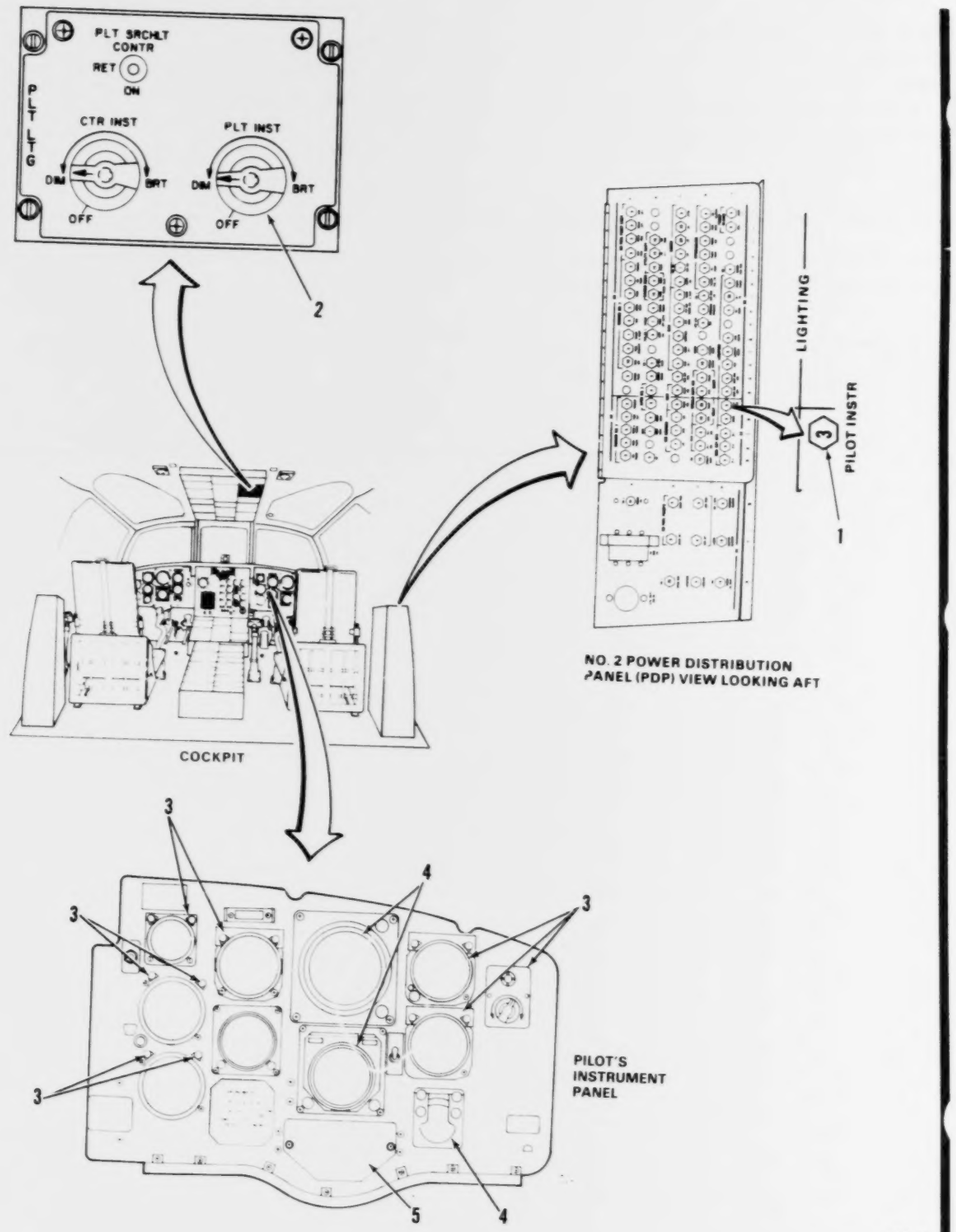
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Pilot's Flight Instrument Panel Lights, Visual Check Performed (Task 9-8.7)

TASK	RESULT
1. **Check** that **LIGHTING PILOT INSTR circuit breaker (1)** is closed.	If PILOT INSTR circuit breaker (1) is open, close it. If it opens again, go to task 9-8.9.
2. **Turn PILOT INST lights control (2) from OFF through DIM to BRT.**	Following lights shall come on and increase in brightness as control (2) is rotated to BRT: a. Panel lights (3). b. Internal lights in indicators (4). c. Panel lights and switch captions VOR, DOP, FM, and CMD on HSI MODE SELECT panel (5). If any light is not lit, go to task 9-8.10. If lights do not increase in brightness, replace PILOT INST lights control (2).
3. **Turn PILOT INST lights control (2) to OFF.**	All pilot's instrument panel lights shall go out. If they do not, replace PILOT INST lights control (2).

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Electrical Power Off
Battery Disconnected



END OF TASK

9-8.9 PILOT INSTR CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

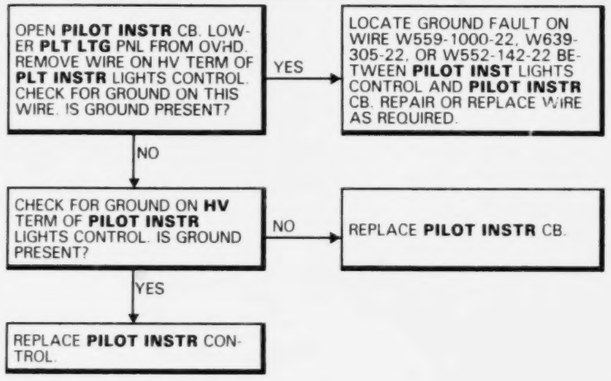
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

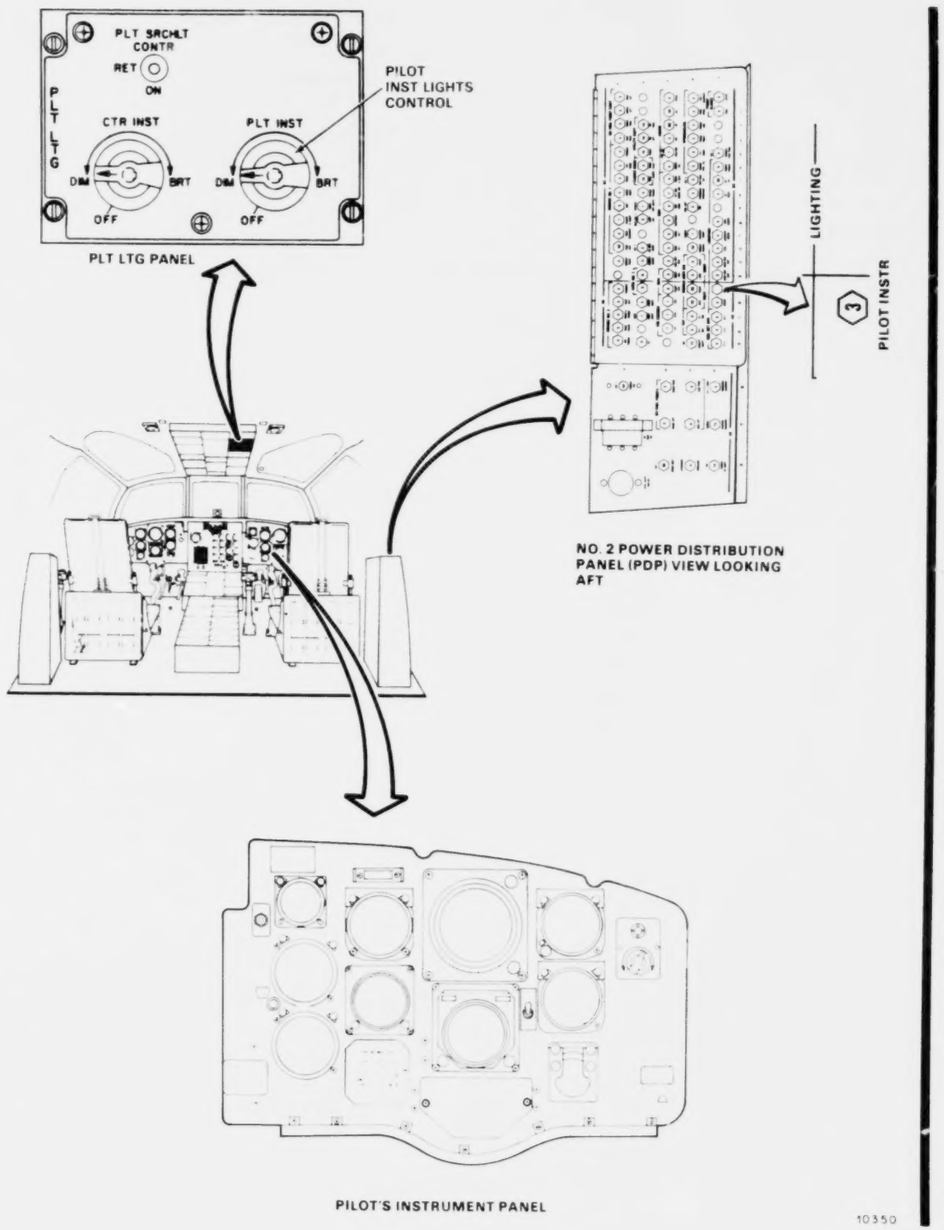
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off


OPEN **PILOT INSTR** CB. LOWER **PLT LTG** PNL FROM OVHD. REMOVE WIRE ON HV TERM OF **PLT INSTR** LIGHTS CONTROL. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W559-1000-22, W639-305-22, OR W552-142-22 BETWEEN **PILOT INST** LIGHTS CONTROL AND **PILOT INSTR** CB. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR GROUND ON **HV** TERM OF **PILOT INSTR** LIGHTS CONTROL. IS GROUND PRESENT?
NO
REPLACE **PILOT INSTR** CB.
YES
REPLACE **PILOT INSTR** CONTROL.



END OF TASK

9-8.10 PILOT'S FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

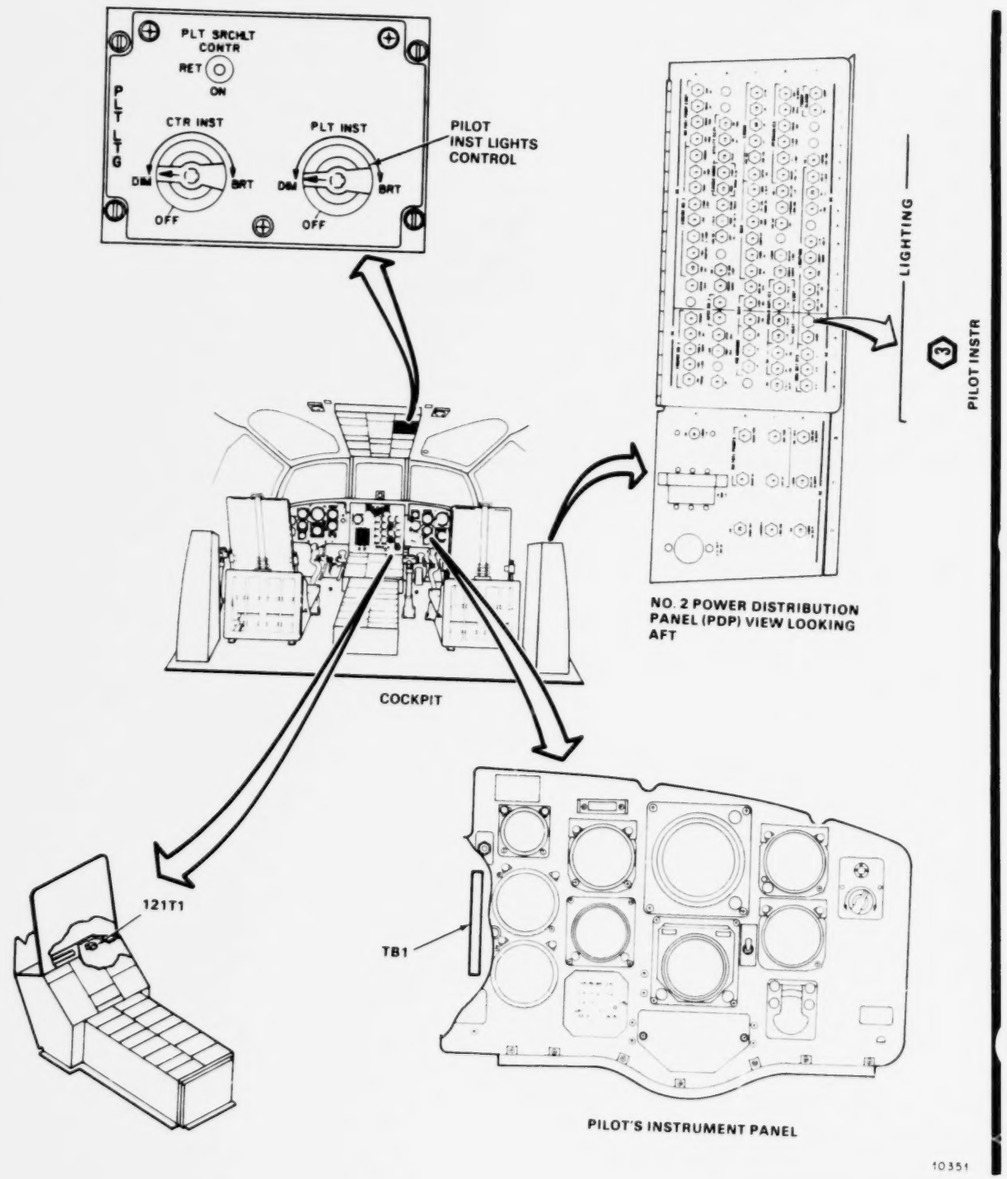
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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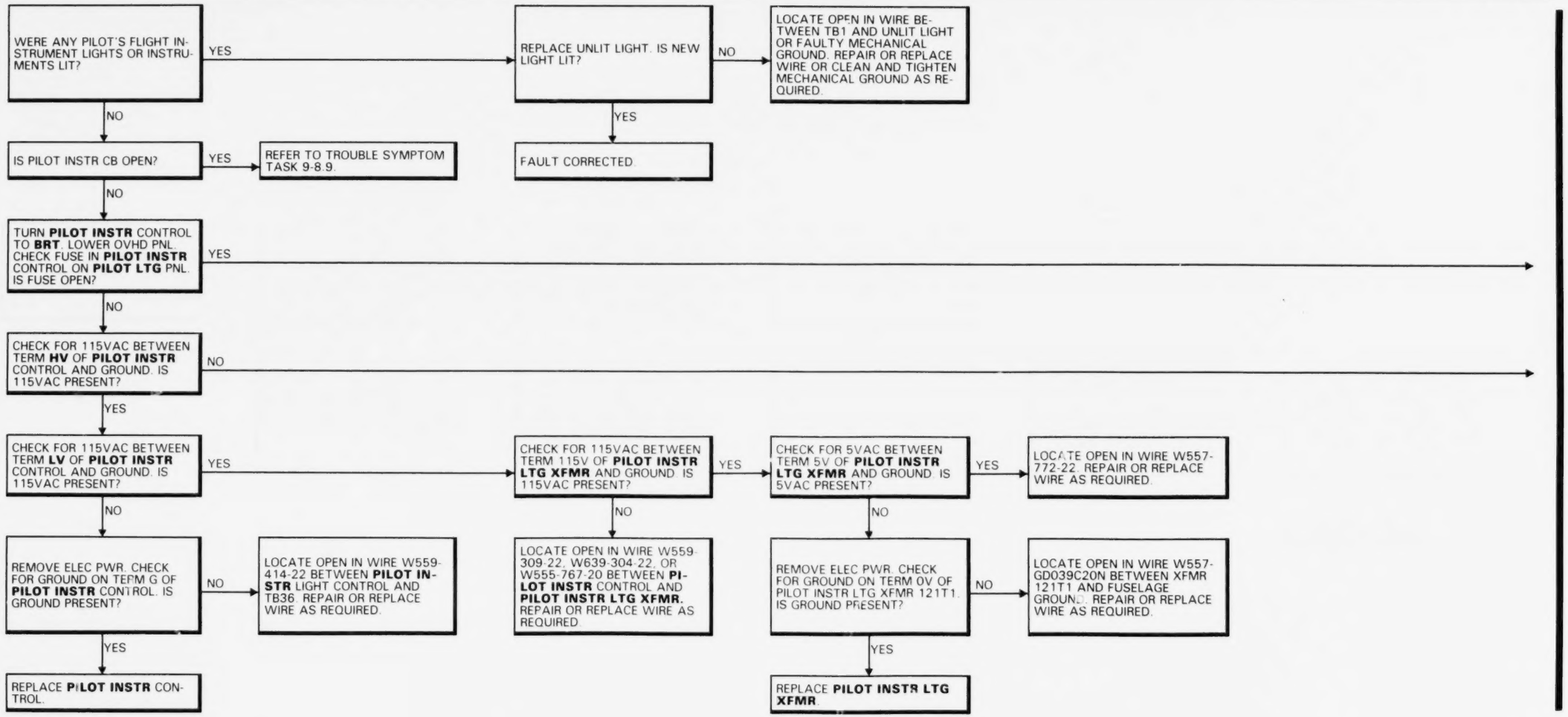
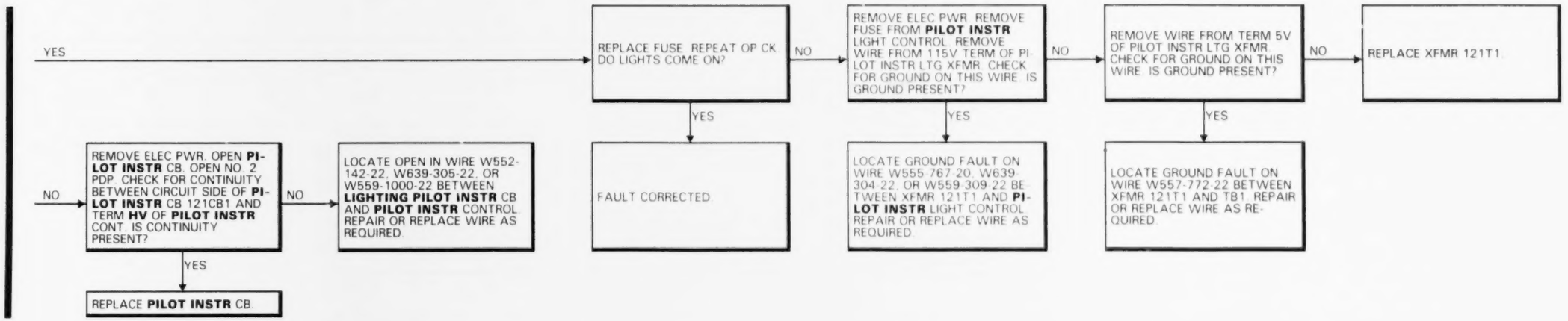
9-8.10 PILOT'S FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT (Continued)

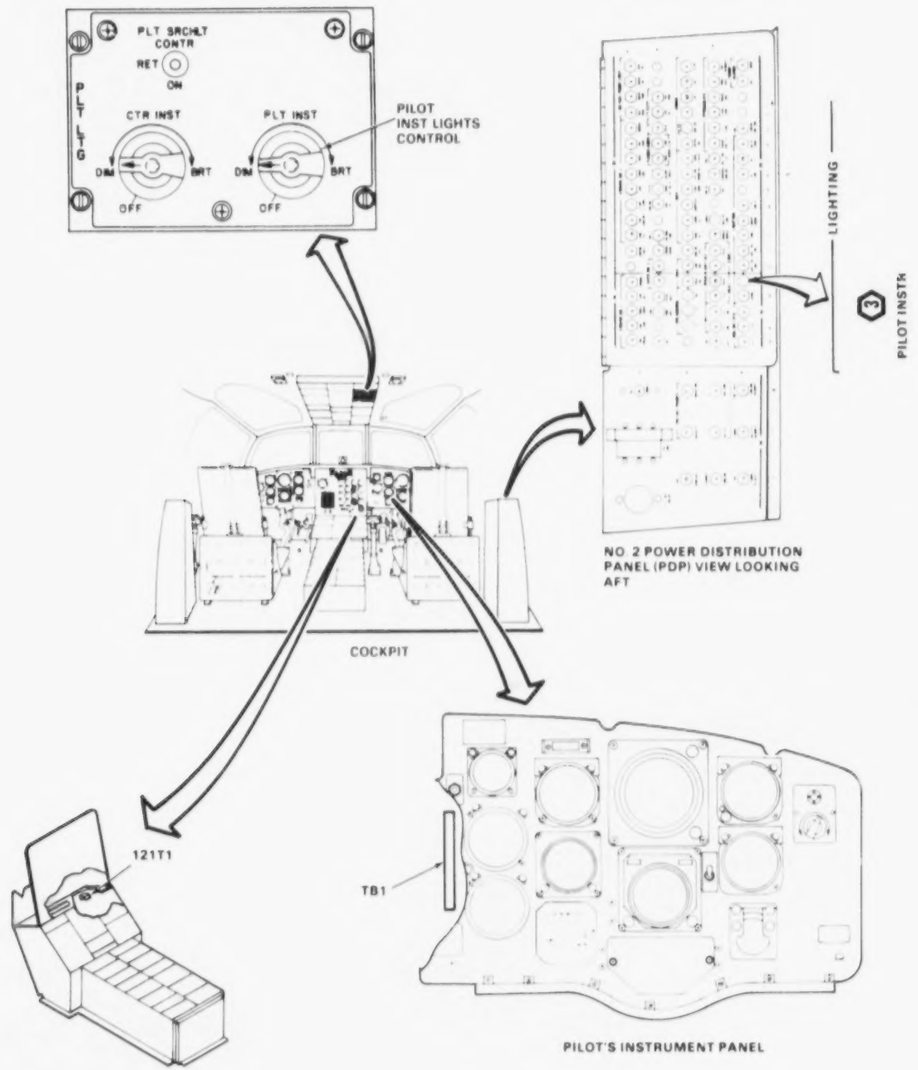

WERE ANY PILOT'S FLIGHT INSTRUMENT LIGHTS OR INSTRUMENTS LIT?
YES
REPLACE UNLIT LIGHT. IS NEW LIGHT LIT?
NO
LOCATE OPEN IN WIRE BETWEEN TB1 AND UNLIT LIGHT OR FAULTY MECHANICAL GROUND. REPAIR OR REPLACE WIRE OR CLEAN AND TIGHTEN MECHANICAL GROUND AS REQUIRED.
YES
FAULT CORRECTED.
NO
IS PILOT INSTR CB OPEN?
YES
REFER TO TROUBLE SYMPTOM TASK 9-8.9.
NO
TURN **PILOT INSTR** CONTROL TO **BRT**. LOWER OVHD PNL. CHECK FUSE IN **PILOT INSTR** CONTROL ON **PILOT LTG** PNL. IS FUSE OPEN?
YES
NO
CHECK FOR 115VAC BETWEEN TERM **HV** OF **PILOT INSTR** CONTROL AND GROUND. IS 115VAC PRESENT?
NO
YES
CHECK FOR 115VAC BETWEEN TERM **LV** OF **PILOT INSTR** CONTROL AND GROUND. IS 115VAC PRESENT?
YES
CHECK FOR 115VAC BETWEEN TERM 115V OF **PILOT INSTR LTG XFMR** AND GROUND. IS 115VAC PRESENT?
YES
CHECK FOR 5VAC BETWEEN TERM 5V OF **PILOT INSTR LTG XFMR** AND GROUND. IS 5VAC PRESENT?
YES
LOCATE OPEN IN WIRE W557-772-22. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE ELEC PWR. CHECK FOR GROUND ON TERM G OF **PILOT INSTR** CONTROL. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W559-414-22 BETWEEN **PILOT INSTR** LIGHT CONTROL AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE **PILOT INSTR** CONTROL.
NO
LOCATE OPEN IN WIRE W559-309-22, W639-304-22, OR W555-767-20 BETWEEN **PILOT INSTR** CONTROL AND **PILOT INSTR LTG XFMR.** REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE ELEC PWR. CHECK FOR GROUND ON TERM 0V OF PILOT INSTR LTG XFMR 121T1. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W557-GD039C20N BETWEEN XFMR 121T1 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE **PILOT INSTR LTG XFMR**.

GO TO NEXT PAGE

9-8.10 PILOT'S FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT (Continued) 9-8.10

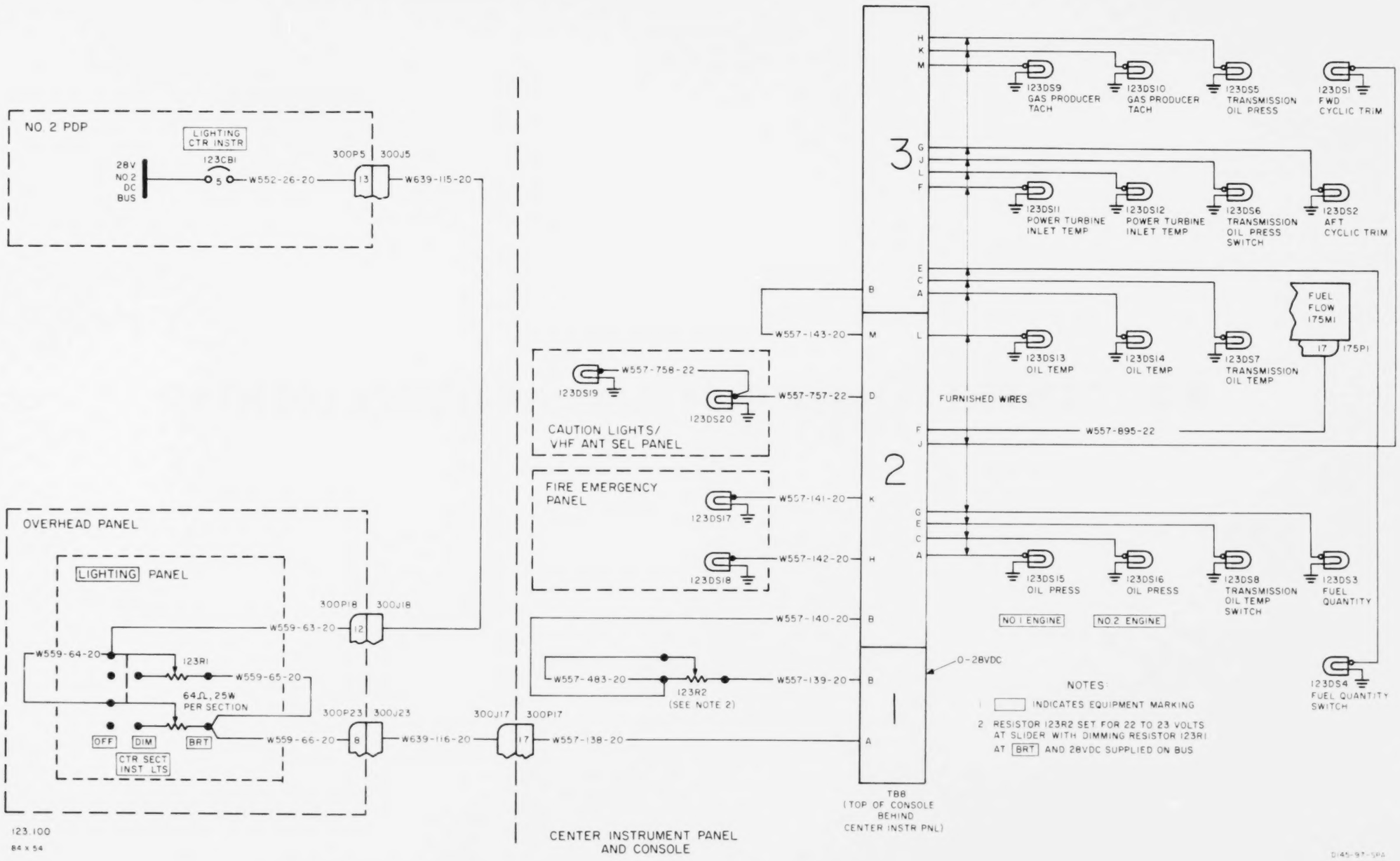

YES
REPLACE FUSE. REPEAT OP CK. DO LIGHTS COME ON?
NO
REMOVE ELEC PWR. REMOVE FUSE FROM **PILOT INSTR** LIGHT CONTROL. REMOVE WIRE FROM 115V TERM OF PILOT INSTR LTG XFMR. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
REMOVE WIRE FROM TERM 5V OF PILOT INSTR LTG XFMR. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
REPLACE XFMR 121T1.
YES
FAULT CORRECTED.
YES
LOCATE GROUND FAULT ON WIRE W555-767-20, W639-304-22, OR W559-309-22 BETWEEN XFMR 121T1 AND **PILOT INSTR** LIGHT CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W557-772-22 BETWEEN XFMR 121T1 AND TB1. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE ELEC PWR. OPEN **PILOT INSTR** CB. OPEN NO. 2 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF **PILOT INSTR** CB 121CB1 AND TERM **HV** OF **PILOT INSTR** CONT. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W552-142-22, W639-305-22, OR W559-1000-22 BETWEEN **LIGHTING PILOT INSTR** CB AND **PILOT INSTR** CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE **PILOT INSTR** CB.

GO TO NEXT PAGE


PLT SRCHLT CONTR
RET
ON
PLT LTG
CTR INST
PLT INST
DIM
BRT
OFF
PILOT INST LIGHTS CONTROL
LIGHTING
3
PILOT INSTR
NO. 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT
COCKPIT
121T1
TB1
PILOT'S INSTRUMENT PANEL

11635

9-9 CENTER FLIGHT INSTRUMENT PANEL LIGHTS


NO 2 PDP
LIGHTING CTR INSTR
123CB1
28V NO 2 DC BUS
5
W552-26-20
300P5
13
300J5
W639-115-20
OVERHEAD PANEL
LIGHTING PANEL
300P18
300J18
12
W559-63-20
W559-64-20
123R1
W559-65-20
64Ω, 25W PER SECTION
OFF
DIM
BRT
CTR SECT INST LTS
300P23
300J23
8
W559-66-20
W639-116-20
123.100
84 x 54
CENTER INSTRUMENT PANEL AND CONSOLE
300J17
300P17
17
W557-138-20
W557-758-22
123DS19
123DS20
W557-757-22
CAUTION LIGHTS/ VHF ANT SEL PANEL
FIRE EMERGENCY PANEL
123DS17
W557-141-20
123DS18
W557-142-20
W557-140-20
W557-483-20
123R2
(SEE NOTE 2)
W557-139-20
W557-143-20
3
2
1
H
K
M
G
J
L
F
E
C
A
B
D
M
L
K
H
B
A
123DS9 GAS PRODUCER TACH
123DS10 GAS PRODUCER TACH
123DS5 TRANSMISSION OIL PRESS
123DS1 FWD CYCLIC TRIM
123DS11 POWER TURBINE INLET TEMP
123DS12 POWER TURBINE INLET TEMP
123DS6 TRANSMISSION OIL PRESS SWITCH
123DS2 AFT CYCLIC TRIM
123DS13 OIL TEMP
123DS14 OIL TEMP
123DS7 TRANSMISSION OIL TEMP
FUEL FLOW 175M1
17
175P1
FURNISHED WIRES
W557-895-22
123DS15 OIL PRESS
123DS16 OIL PRESS
123DS8 TRANSMISSION OIL TEMP SWITCH
123DS3 FUEL QUANTITY
NO 1 ENGINE
NO 2 ENGINE
123DS4 FUEL QUANTITY SWITCH
0-28VDC
T88 (TOP OF CONSOLE BEHIND CENTER INSTR PNL)
NOTES:
1 INDICATES EQUIPMENT MARKING
2 RESISTOR 123R2 SET FOR 22 TO 23 VOLTS AT SLIDER WITH DIMMING RESISTOR 123R1 AT BRT AND 28VDC SUPPLIED ON BUS
D145-97-5PA

9-9.2 CENTER FLIGHT INSTRUMENT PANEL LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

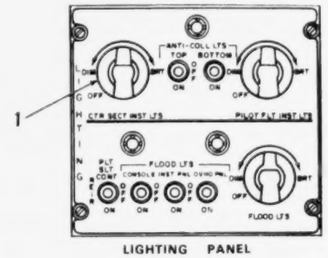
Personnel Required:
Aircraft Electrician

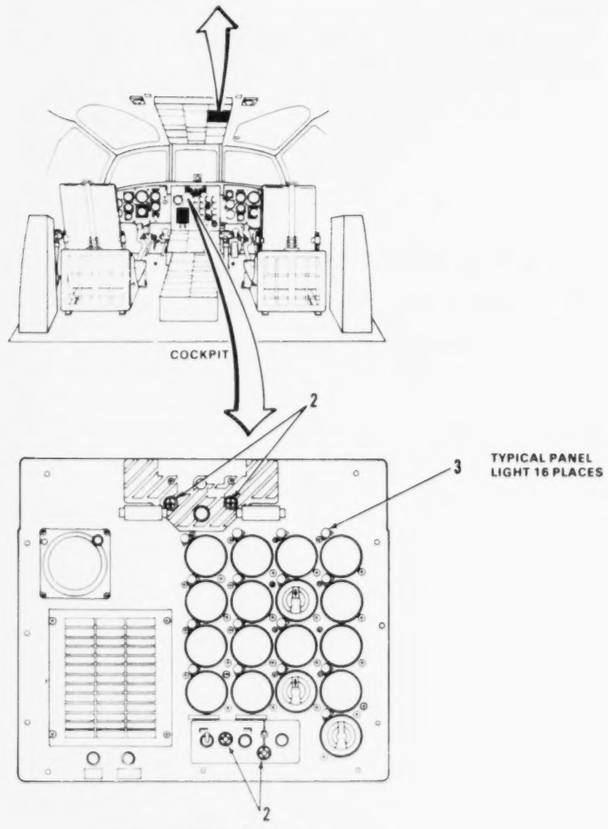
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check CTR SECT INST LTS control (1).**	If control (1) is loose or damaged, tighten or replace it as required.
2. **Check four panel lights (2).**	If any panel light (2) is damaged, replace it.
3. **Check 16 panel lights (3).**	If any panel light (3) is damaged, replace it.

FOLLOW-ON MAINTENANCE:
None





9-9.3 CENTER FLIGHT INSTRUMENT PANEL LIGHTS OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
None

Materials:
None

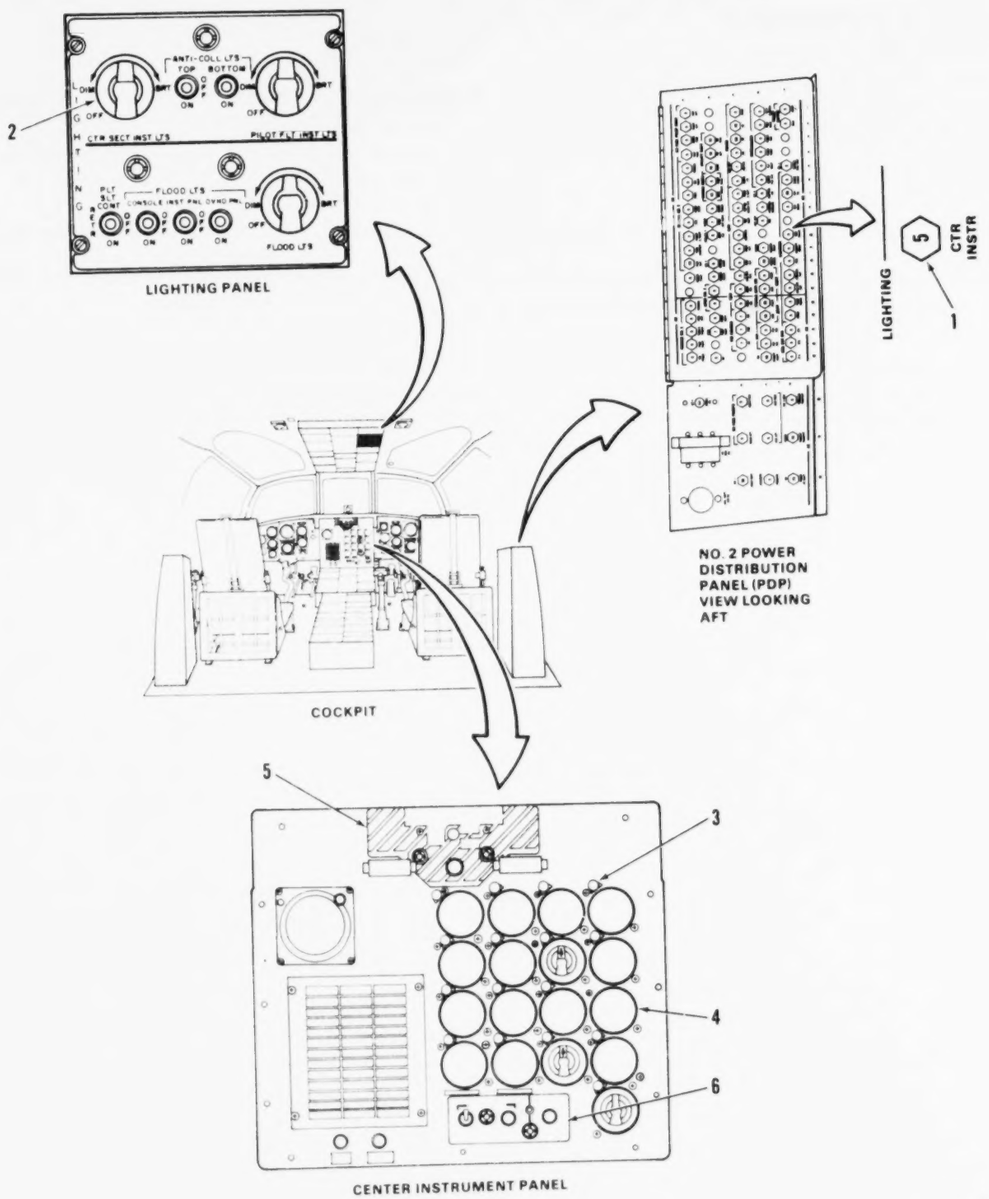
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Center Flight Instrument Panel Lights Visual Check Performed (Task 9-9.2)

TASK	RESULT
1. **Check** that **LIGHTING CTR INSTR circuit breaker (1)** is closed.	If CTR INSTR circuit breaker (1) is open, close it. If it opens again, go to task 9-9.4.
2. **Turn CTR SECT INST LTS control (2) from OFF through DIM to BRT.**	All 16 instrument panel lights (3), fuel flow indicator (4) internal lights, fire emergency panel (5) lights, and caution lights/vhf antenna select panel (6) lights shall come on dim and increase in brightness as control (2) is turned to BRT. If any light is not lit, go to task 9-9.5. If brightness does not increase, replace CTR SECT INST LTS control.
3. **Turn CTR SECT INST LTS control (2) to OFF.**	All center flight instrument panel lights shall go out. If not, replace CTR SECT INST LTS control.

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off



D145-4166-SPA

45X54

END OF TASK

9-9.4 CTR INSTR CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

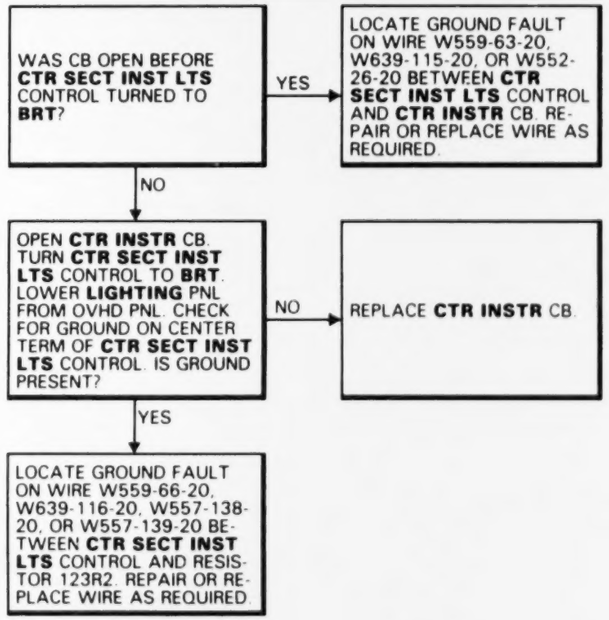
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

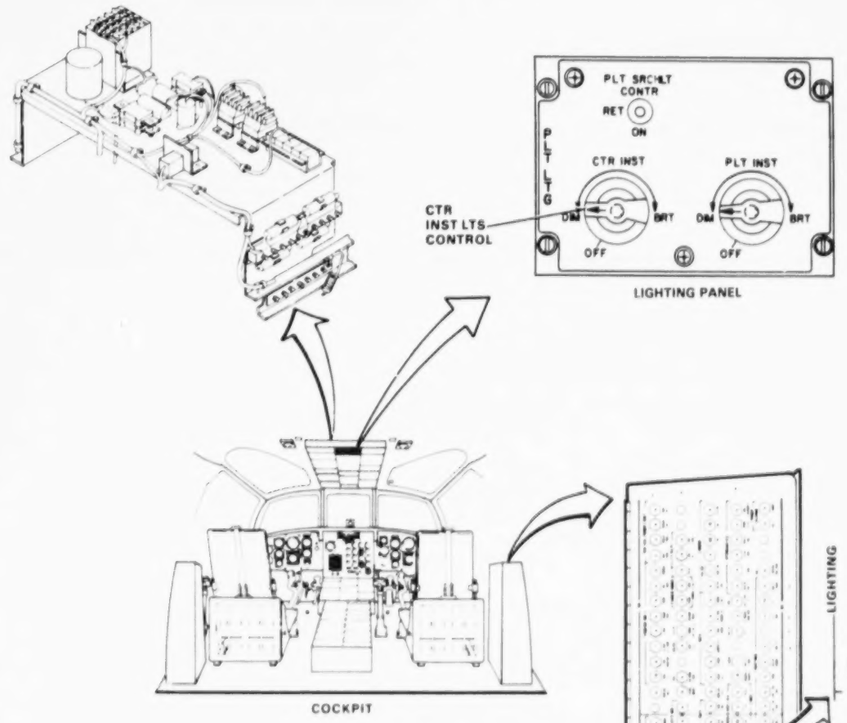
Materials:
None

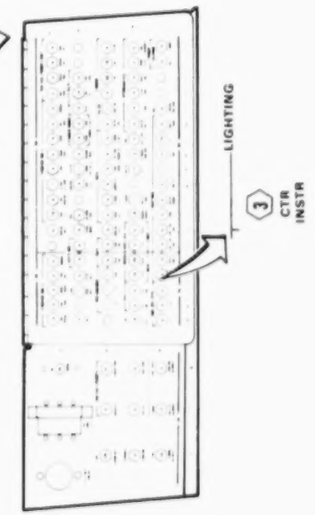
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off


WAS CB OPEN BEFORE CTR SECT INST LTS CONTROL TURNED TO BRT?
YES
LOCATE GROUND FAULT ON WIRE W559-63-20, W639-115-20, OR W552-26-20 BETWEEN CTR SECT INST LTS CONTROL AND CTR INSTR CB. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
OPEN CTR INSTR CB. TURN CTR SECT INST LTS CONTROL TO BRT. LOWER LIGHTING PNL FROM OVHD PNL. CHECK FOR GROUND ON CENTER TERM OF CTR SECT INST LTS CONTROL. IS GROUND PRESENT?
NO
REPLACE CTR INSTR CB.
YES
LOCATE GROUND FAULT ON WIRE W559-66-20, W639-116-20, W557-138-20, OR W557-139-20 BETWEEN CTR SECT INST LTS CONTROL AND RESISTOR 123R2. REPAIR OR REPLACE WIRE AS REQUIRED.





10355

END OF TASK

9-9.5 CENTER FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

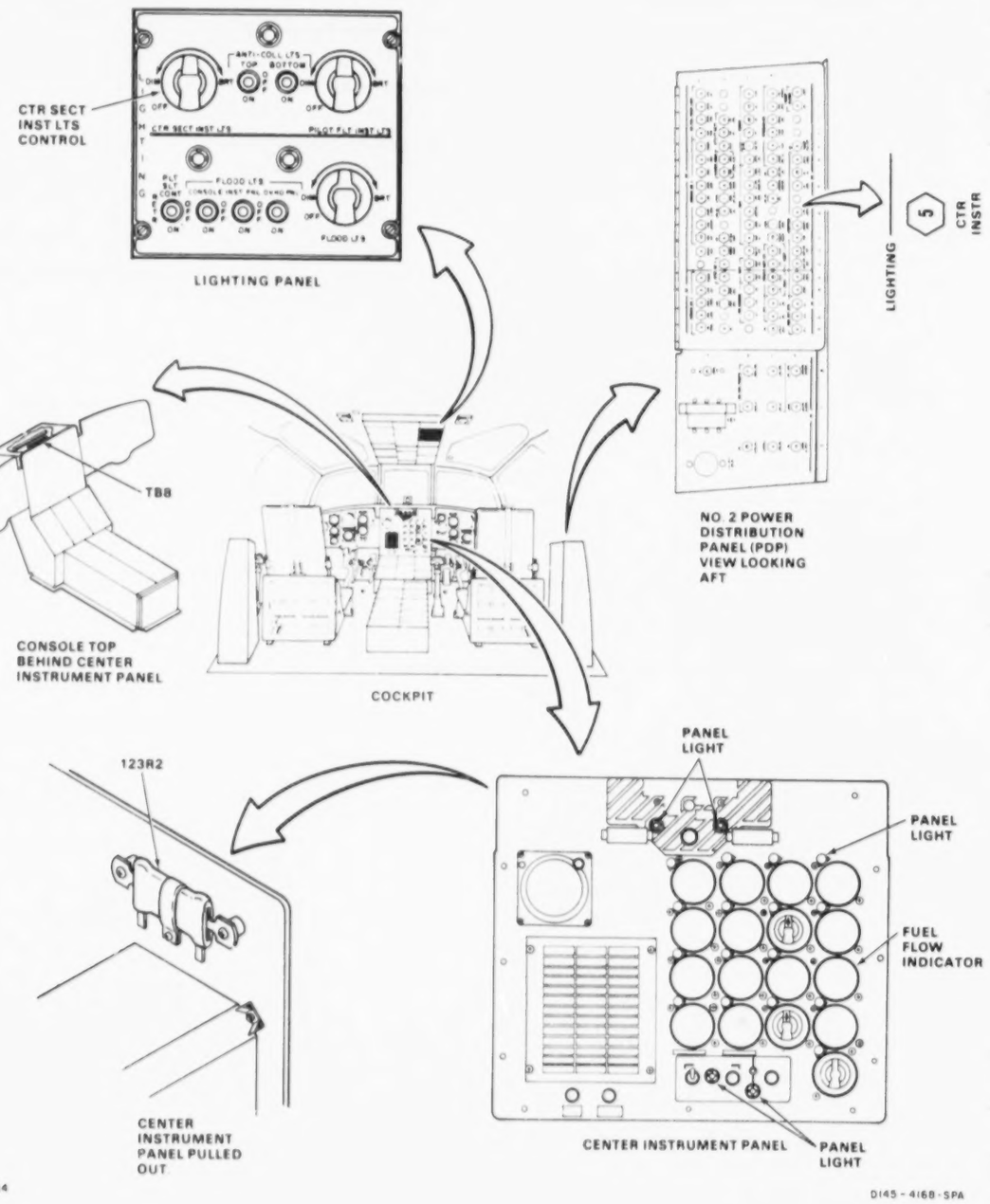
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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D145-4168-SPA

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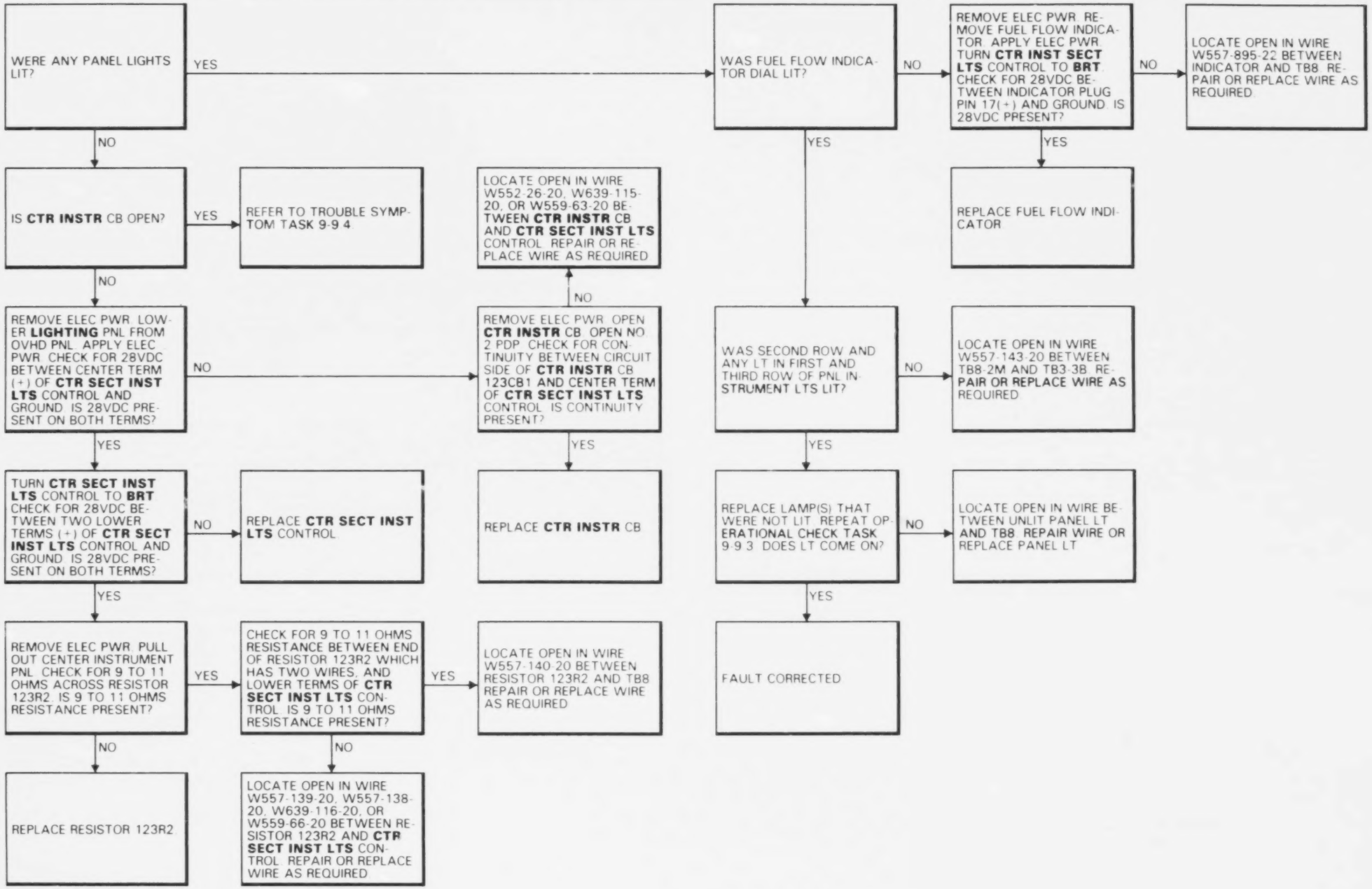
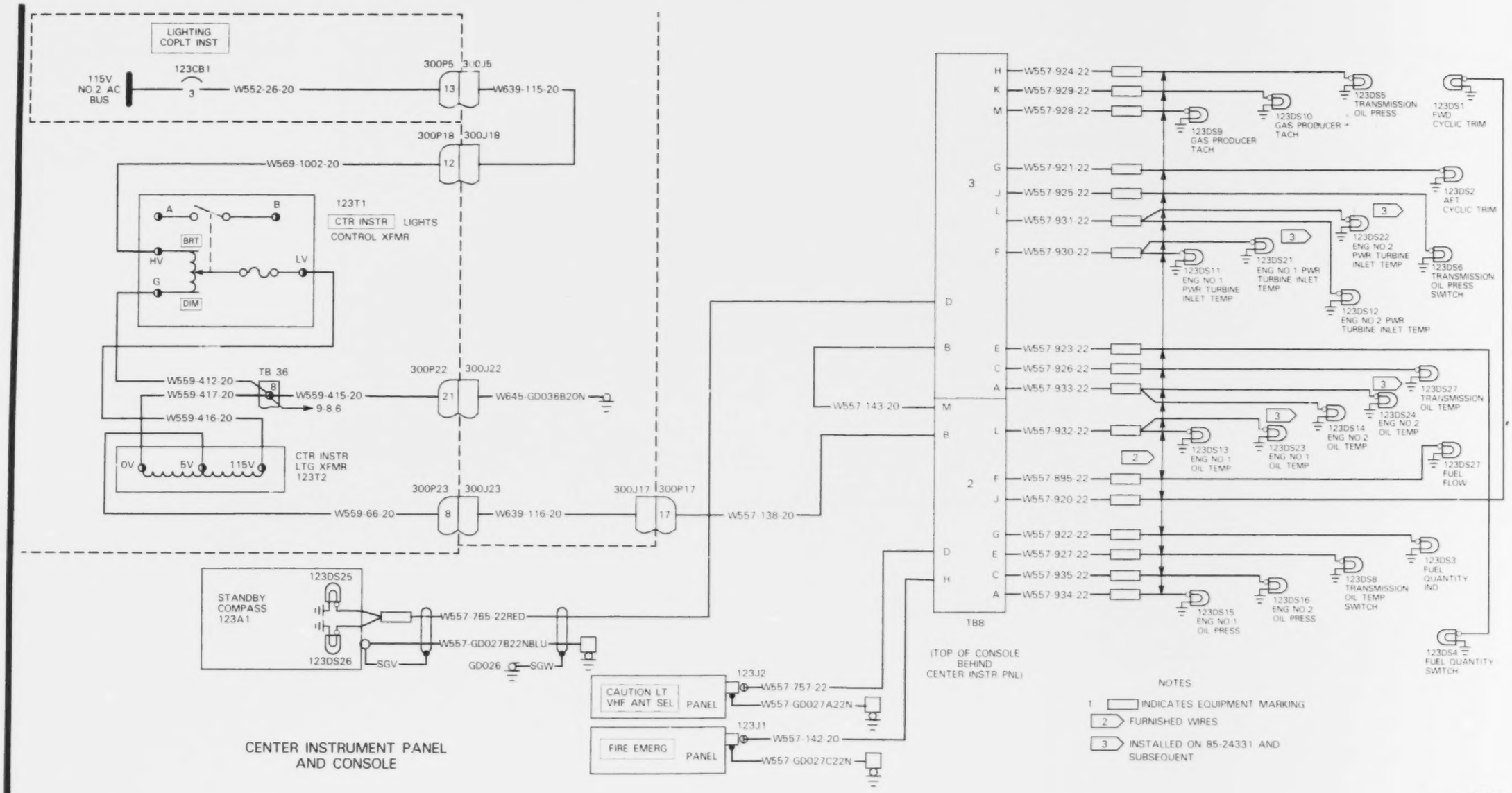

WERE ANY PANEL LIGHTS LIT?
YES
NO
IS CTR INSTR CB OPEN?
YES
REFER TO TROUBLE SYMPTOM TASK 9-9.4
NO
REMOVE ELEC PWR. LOWER LIGHTING PNL FROM OVHD PNL. APPLY ELEC PWR. CHECK FOR 28VDC BETWEEN CENTER TERM (+) OF CTR SECT INST LTS CONTROL AND GROUND. IS 28VDC PRESENT ON BOTH TERMS?
NO
YES
TURN CTR SECT INST LTS CONTROL TO BRT. CHECK FOR 28VDC BETWEEN TWO LOWER TERMS (+) OF CTR SECT INST LTS CONTROL AND GROUND. IS 28VDC PRESENT ON BOTH TERMS?
NO
REPLACE CTR SECT INST LTS CONTROL
YES
REMOVE ELEC PWR. PULL OUT CENTER INSTRUMENT PNL. CHECK FOR 9 TO 11 OHMS ACROSS RESISTOR 123R2. IS 9 TO 11 OHMS RESISTANCE PRESENT?
YES
CHECK FOR 9 TO 11 OHMS RESISTANCE BETWEEN END OF RESISTOR 123R2 WHICH HAS TWO WIRES, AND LOWER TERMS OF CTR SECT INST LTS CONTROL. IS 9 TO 11 OHMS RESISTANCE PRESENT?
YES
LOCATE OPEN IN WIRE W557-140-20 BETWEEN RESISTOR 123R2 AND TB8 REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE RESISTOR 123R2
NO
LOCATE OPEN IN WIRE W557-139-20, W557-138-20, W639-116-20, OR W559-66-20 BETWEEN RESISTOR 123R2 AND CTR SECT INST LTS CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W552-26-20, W639-115-20, OR W559-63-20 BETWEEN CTR INSTR CB AND CTR SECT INST LTS CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REMOVE ELEC PWR. OPEN CTR INSTR CB. OPEN NO 2 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF CTR INSTR CB 123CB1 AND CENTER TERM OF CTR SECT INST LTS CONTROL. IS CONTINUITY PRESENT?
YES
REPLACE CTR INSTR CB
WAS FUEL FLOW INDICATOR DIAL LIT?
NO
REMOVE ELEC PWR. REMOVE FUEL FLOW INDICATOR. APPLY ELEC PWR. TURN CTR INST SECT LTS CONTROL TO BRT. CHECK FOR 28VDC BETWEEN INDICATOR PLUG PIN 17(+) AND GROUND. IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W557-895-22 BETWEEN INDICATOR AND TB8. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE FUEL FLOW INDICATOR
YES
WAS SECOND ROW AND ANY LT IN FIRST AND THIRD ROW OF PNL INSTRUMENT LTS LIT?
NO
LOCATE OPEN IN WIRE W557-143-20 BETWEEN TB8-2M AND TB3-3B. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE LAMP(S) THAT WERE NOT LIT. REPEAT OPERATIONAL CHECK TASK 9-9.3. DOES LT COME ON?
NO
LOCATE OPEN IN WIRE BETWEEN UNLIT PANEL LT AND TB8. REPAIR WIRE OR REPLACE PANEL LT
YES
FAULT CORRECTED

END OF TASK

9-9.6 CENTER FLIGHT INSTRUMENT PANEL LIGHTS WIRING DIAGRAM (WITH 17)



9-9.7 CENTER FLIGHT INSTRUMENT PANEL LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

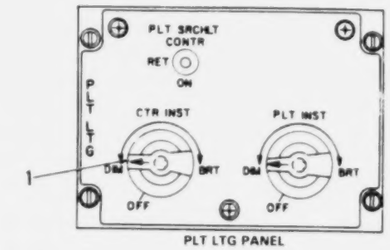
Personnel Required:
Aircraft Electrician

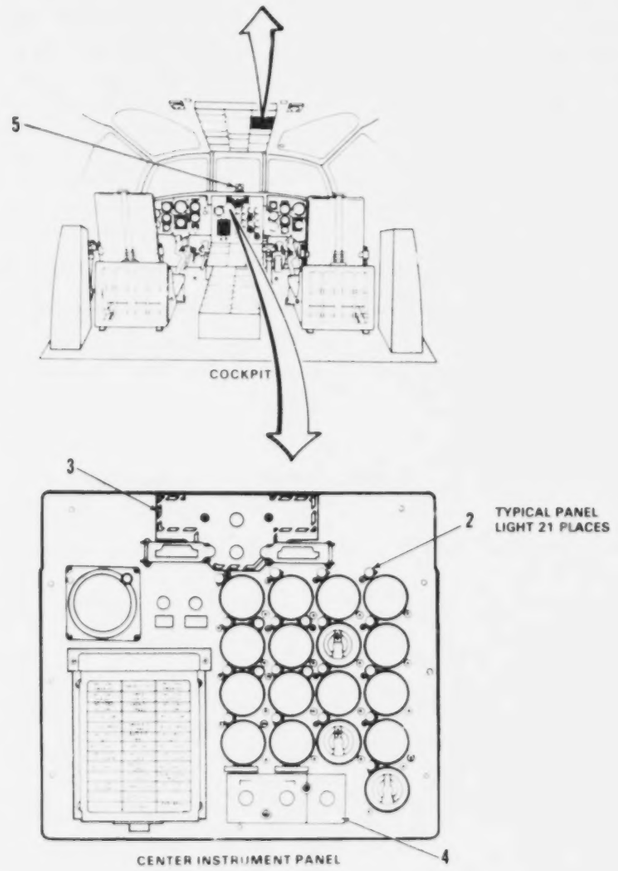
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check CTR INST lights control (1).**	If control (1) is loose or damaged, tighten or replace it as required.
2. **Check panel lights (2).**	If any panel light (2) is damaged, replace it.
NOTE There are 17 panel lights on helicopters up to 85-24330. Beginning with 85-24331, there are 21 panel lights.	
3. **Check FIRE EMERG panel (3)** and **CAUTION LT VHF ANT SEL** panel (4).	If either panel is damaged, replace it.
4. **Check lights on standby compass (5).**	If either light is damaged, replace it.

FOLLOW-ON MAINTENANCE:
None





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END OF TASK

9-9.8 CENTER FLIGHT INSTRUMENT PANEL LIGHTS OPERATIONAL CHECK 9-9.8

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
None

Materials:
None

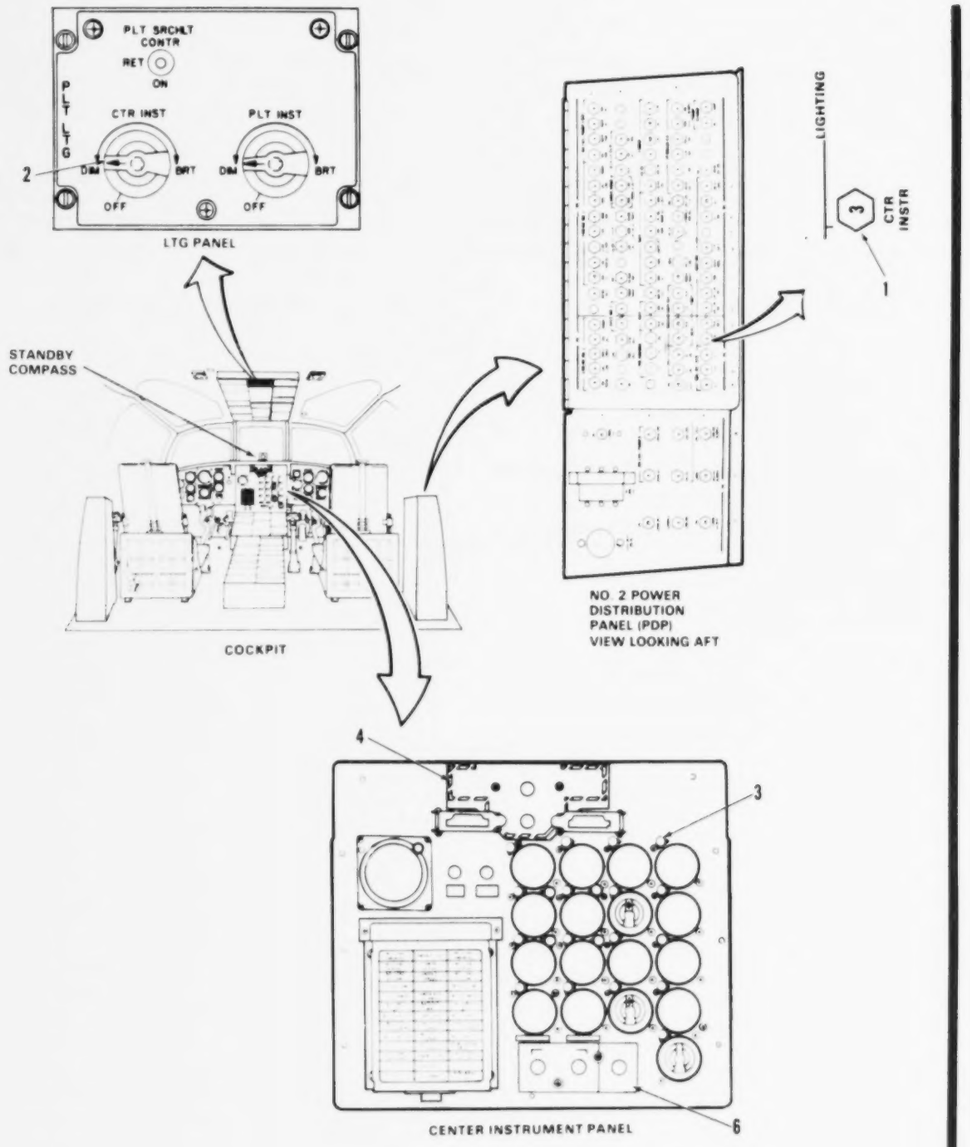
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Center Flight Instrument Panel Lights Visual Check Performed (Task 9-9.7)

TASK	RESULT
1. **Check** that **LIGHTING CTR INSTR circuit breaker (1)** is closed.	If CTR INSTR circuit breaker (1) is open, close it. If it opens again, go to task 9-9.9.
2. **Turn CTR INST lights control (2) from OFF through DIM to BRT.**	All 21 instrument panel lights (3), FIRE EMERG panel (4) lights, CAUTION LTS/VHF ANT SEL panel (5) lights, and standby compass (6) lights, shall come on dim and increase in brightness as control (2) is turned to BRT. If any light is not lit, go to task 9-9.10. If brightness does not increase, replace CTR INST lights control.
3. **Turn CTR INST lights control (2) to OFF.**	All center flight instrument panel lights shall go out. If not, replace CTR INST lights control.

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off



END OF TASK

9-9.9 CTR INSTR CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

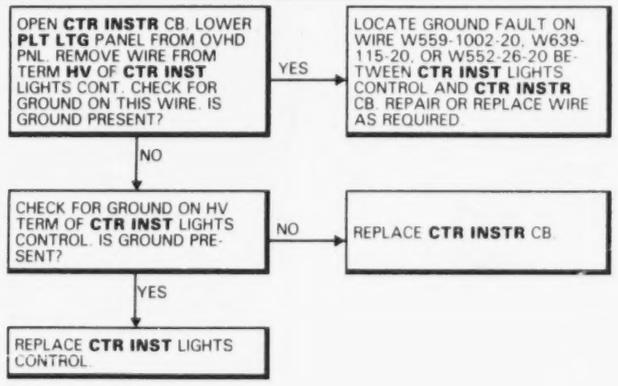
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

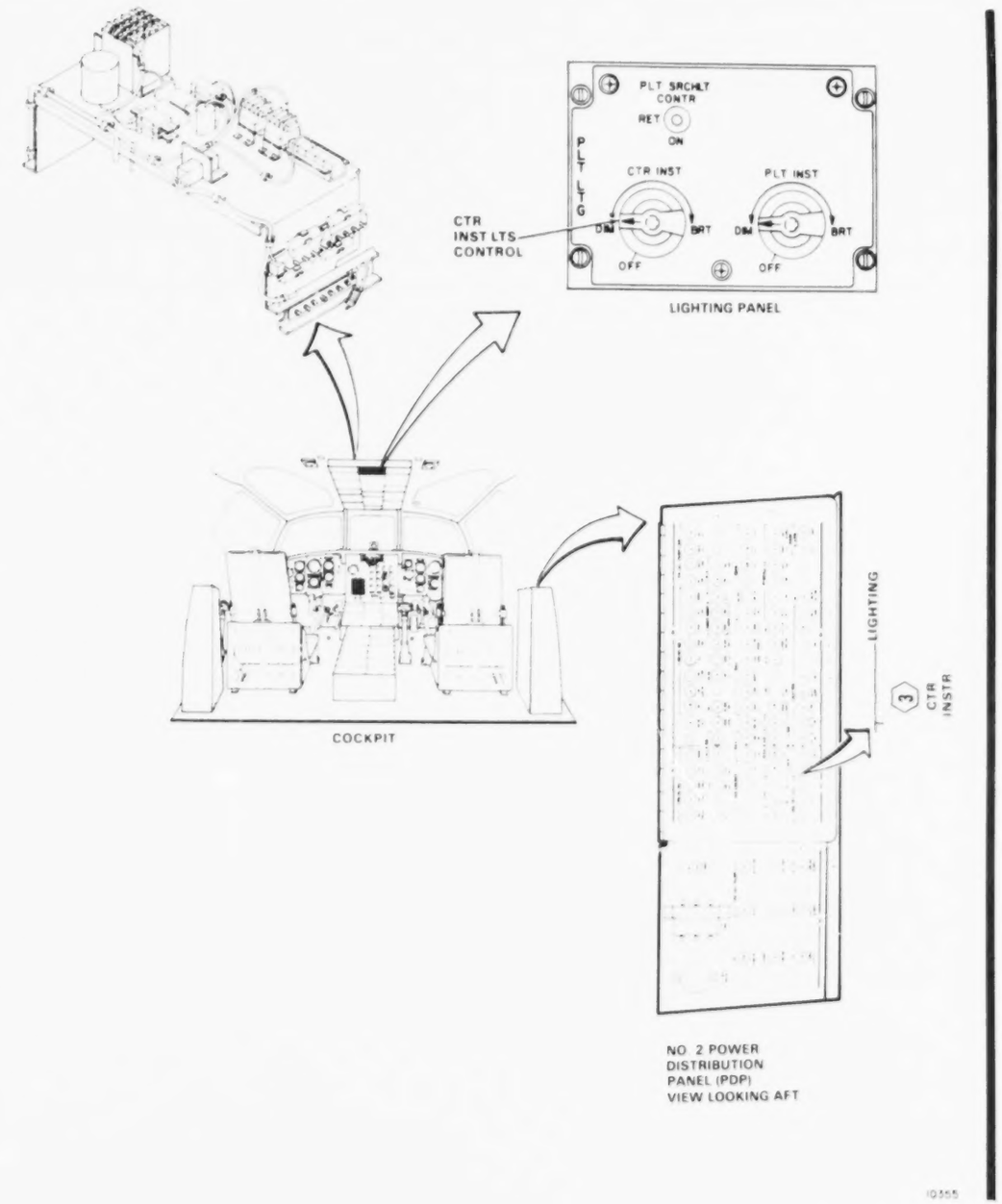
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off


OPEN **CTR INSTR** CB. LOWER **PLT LTG** PANEL FROM OVHD PNL. REMOVE WIRE FROM TERM **HV** OF **CTR INST** LIGHTS CONT. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W559-1002-20, W639-115-20, OR W552-26-20 BETWEEN **CTR INST** LIGHTS CONTROL AND **CTR INSTR** CB. REPAIR OR REPLACE WIRE AS REQUIRED
NO
CHECK FOR GROUND ON HV TERM OF **CTR INST** LIGHTS CONTROL. IS GROUND PRESENT?
NO
REPLACE **CTR INSTR** CB.
YES
REPLACE **CTR INST** LIGHTS CONTROL.



END OF TASK

9-9.10 CENTER FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

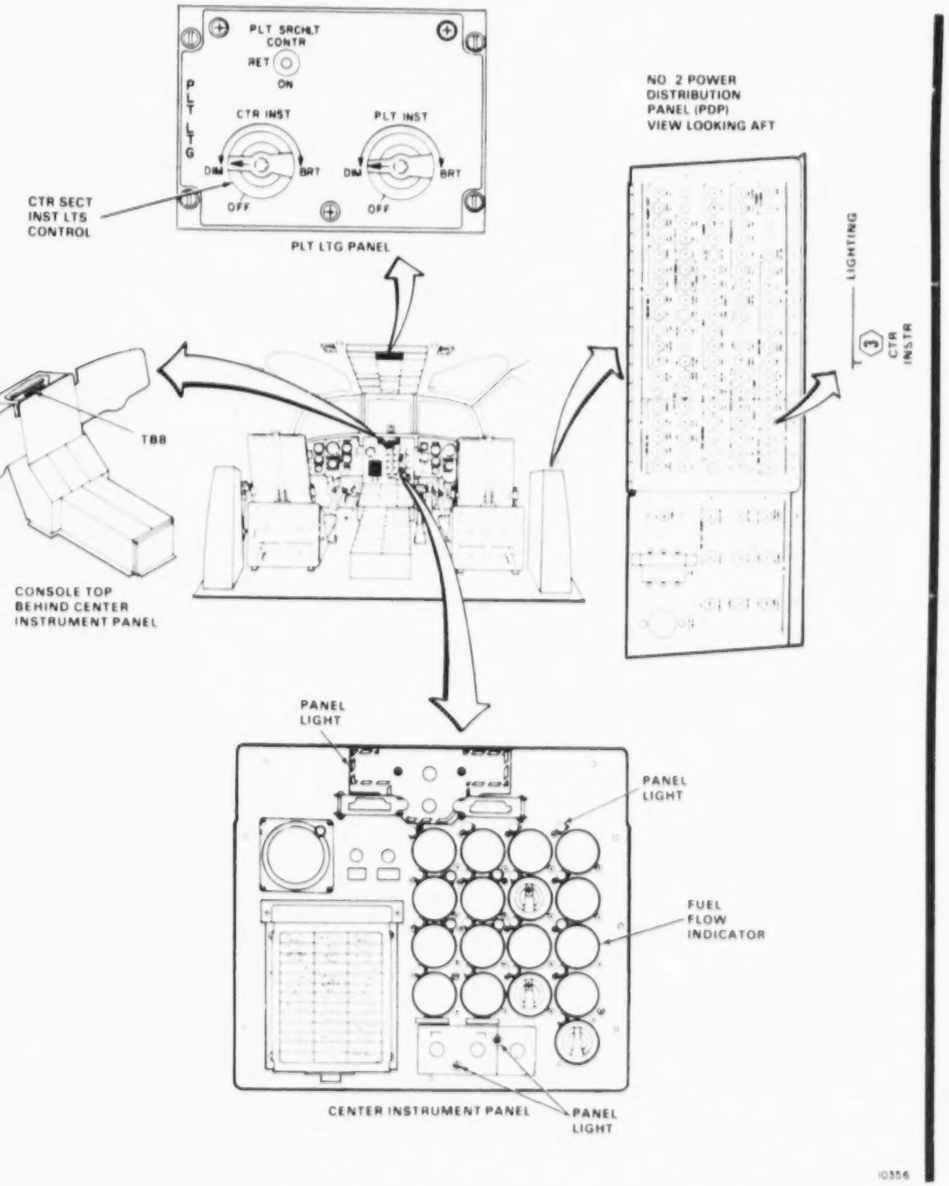
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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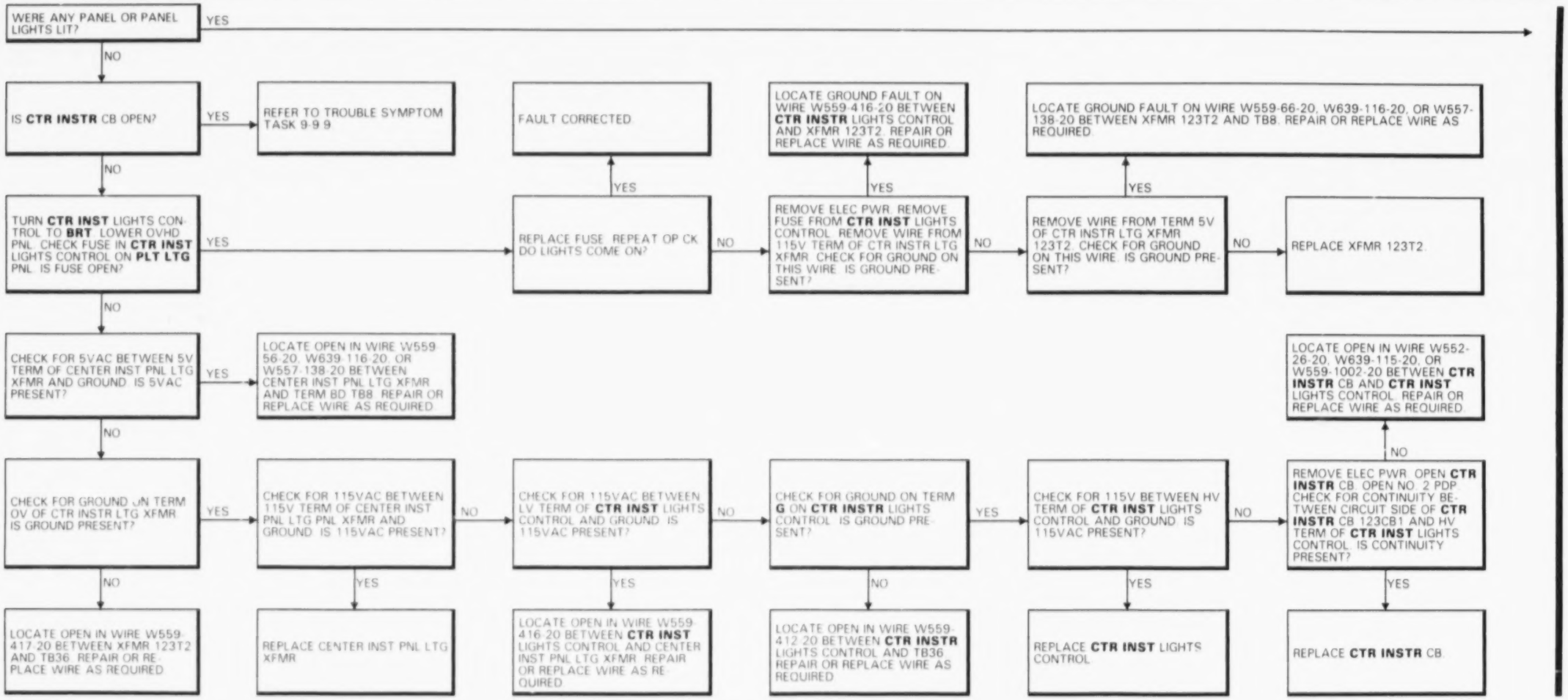
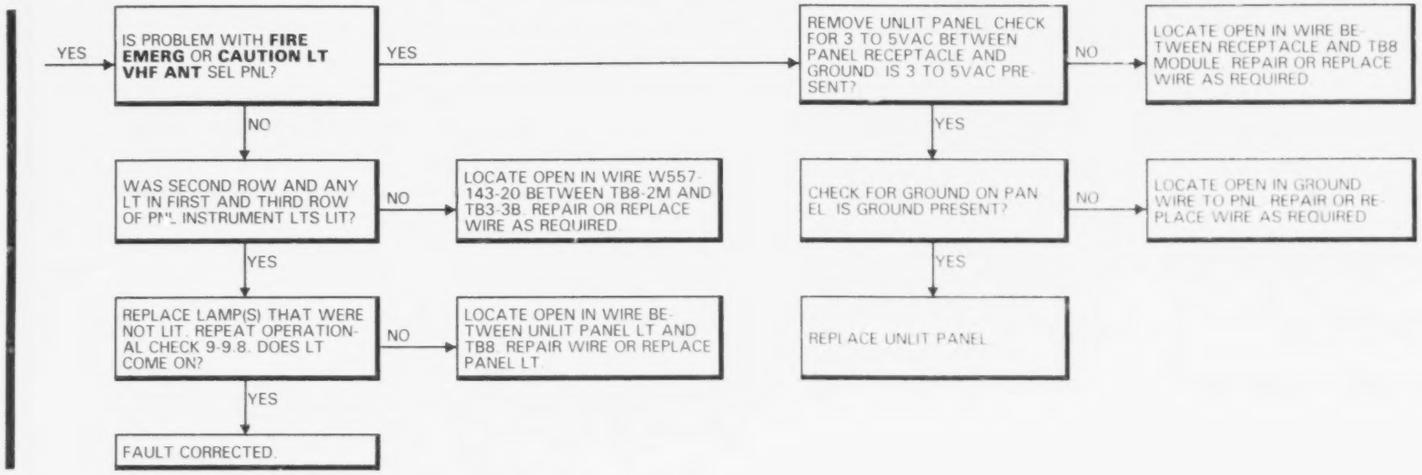

WERE ANY PANEL OR PANEL LIGHTS LIT?
YES
NO
IS CTR INSTR CB OPEN?
YES
REFER TO TROUBLE SYMPTOM TASK 9-9.9
NO
TURN CTR INST LIGHTS CONTROL TO BRT. LOWER OVHD PNL. CHECK FUSE IN CTR INST LIGHTS CONTROL ON PLT LTG PNL. IS FUSE OPEN?
YES
REPLACE FUSE. REPEAT OP CK. DO LIGHTS COME ON?
YES
FAULT CORRECTED
NO
REMOVE ELEC PWR. REMOVE FUSE FROM CTR INST LIGHTS CONTROL. REMOVE WIRE FROM 115V TERM OF CTR INSTR LTG XFMR. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W559-416-20 BETWEEN CTR INSTR LIGHTS CONTROL AND XFMR 123T2. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE WIRE FROM TERM 5V OF CTR INSTR LTG XFMR 123T2. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W559-66-20, W639-116-20, OR W557-138-20 BETWEEN XFMR 123T2 AND TB8. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE XFMR 123T2.
CHECK FOR 5VAC BETWEEN 5V TERM OF CENTER INST PNL LTG XFMR AND GROUND. IS 5VAC PRESENT?
YES
LOCATE OPEN IN WIRE W559-56-20, W639-116-20, OR W557-138-20 BETWEEN CENTER INST PNL LTG XFMR AND TERM BD TB8. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR GROUND ON TERM 5V OF CTR INSTR LTG XFMR. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W559-417-20 BETWEEN XFMR 123T2 AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR 115VAC BETWEEN 115V TERM OF CENTER INST PNL LTG PNL XFMR AND GROUND. IS 115VAC PRESENT?
YES
REPLACE CENTER INST PNL LTG XFMR
NO
CHECK FOR 115VAC BETWEEN LV TERM OF CTR INST LIGHTS CONTROL AND GROUND. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRE W559-416-20 BETWEEN CTR INST LIGHTS CONTROL AND CENTER INST PNL LTG XFMR. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR GROUND ON TERM G ON CTR INSTR LIGHTS CONTROL. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W559-412-20 BETWEEN CTR INSTR LIGHTS CONTROL AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR 115V BETWEEN HV TERM OF CTR INST LIGHTS CONTROL AND GROUND. IS 115VAC PRESENT?
YES
REPLACE CTR INST LIGHTS CONTROL
NO
REMOVE ELEC PWR. OPEN CTR INSTR CB. OPEN NO. 2 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF CTR INSTR CB 123CB1 AND HV TERM OF CTR INST LIGHTS CONTROL. IS CONTINUITY PRESENT?
YES
REPLACE CTR INSTR CB.
NO
LOCATE OPEN IN WIRE W552-26-20, W639-115-20, OR W559-1002-20 BETWEEN CTR INSTR CB AND CTR INST LIGHTS CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED.

GO TO NEXT PAGE

9-9.10 CENTER FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT (Continued) 9-9.10


YES
IS PROBLEM WITH **FIRE EMERG** OR **CAUTION LT VHF ANT** SEL PNL?
YES
NO
WAS SECOND ROW AND ANY LT IN FIRST AND THIRD ROW OF PNL INSTRUMENT LTS LIT?
NO
LOCATE OPEN IN WIRE W557-143-20 BETWEEN TB8-2M AND TB3-3B. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE LAMP(S) THAT WERE NOT LIT. REPEAT OPERATIONAL CHECK 9-9.8. DOES LT COME ON?
NO
LOCATE OPEN IN WIRE BETWEEN UNLIT PANEL LT AND TB8. REPAIR WIRE OR REPLACE PANEL LT.
YES
FAULT CORRECTED.
REMOVE UNLIT PANEL. CHECK FOR 3 TO 5VAC BETWEEN PANEL RECEPTACLE AND GROUND. IS 3 TO 5VAC PRESENT?
NO
LOCATE OPEN IN WIRE BETWEEN RECEPTACLE AND TB8 MODULE. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR GROUND ON PANEL. IS GROUND PRESENT?
NO
LOCATE OPEN IN GROUND WIRE TO PNL. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE UNLIT PANEL.

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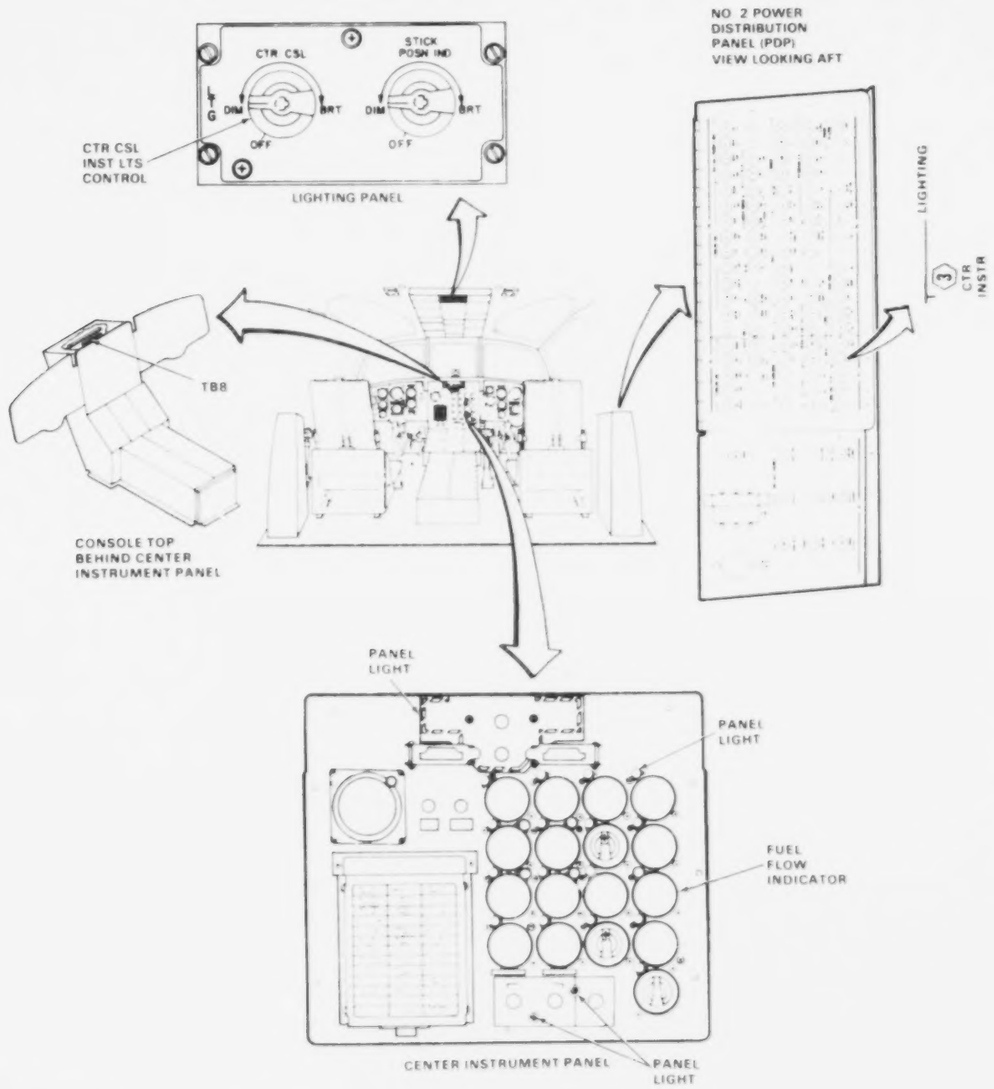
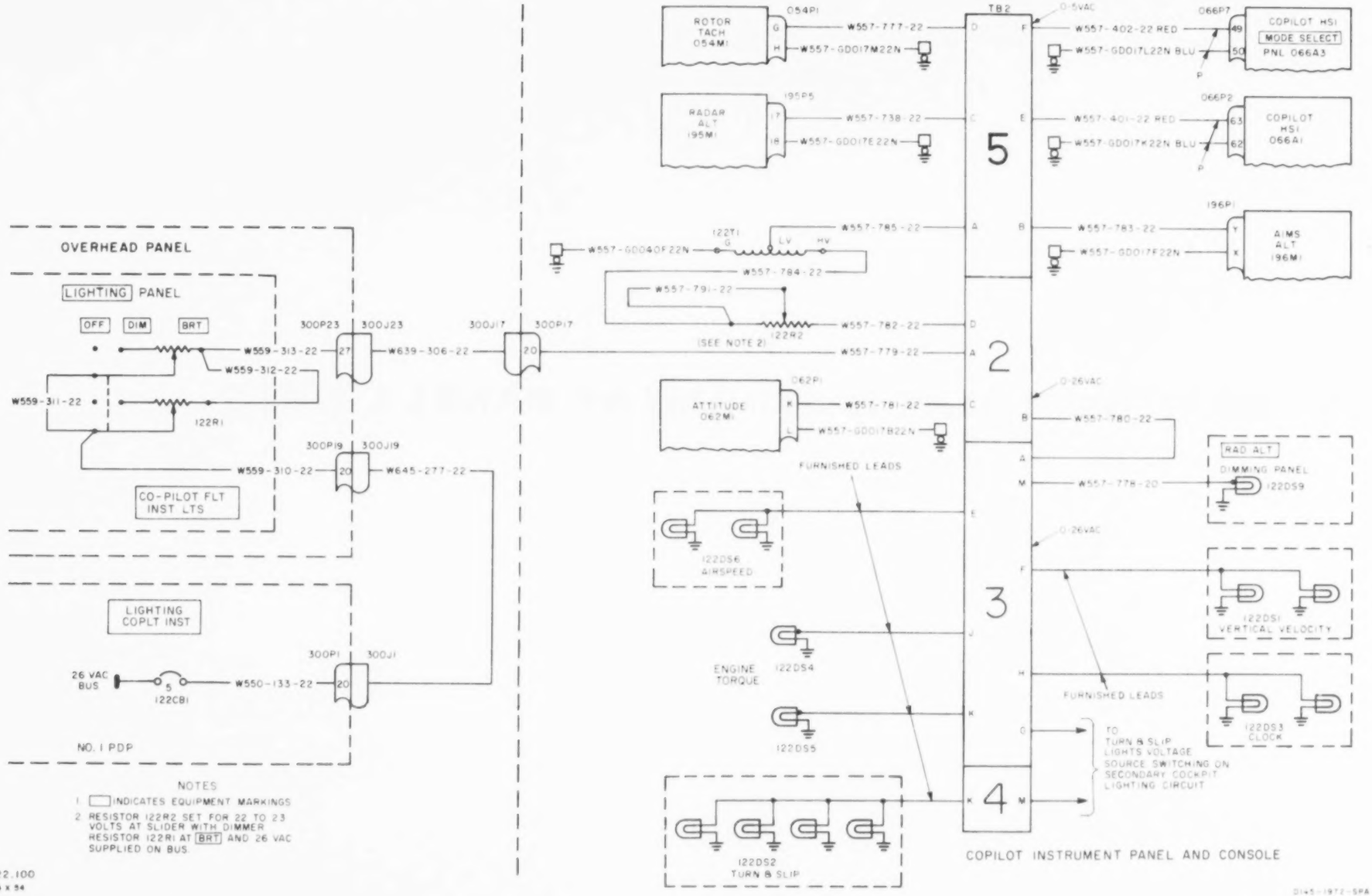


11636

END OF TASK

9-10 COPILOT FLIGHT INSTRUMENT PANEL LIGHTS


OVERHEAD PANEL
LIGHTING PANEL
OFF
DIM
BRT
W559-313-22
W559-312-22
W559-311-22
122R1
300P23
300J23
W639-306-22
27
300J17
300P17
20
(SEE NOTE 2)
W557-779-22
300P19
300J19
W559-310-22
W645-277-22
CO-PILOT FLT INST LTS
LIGHTING COPLT INST
26 VAC BUS
5
122CB1
300P1
300J1
W550-133-22
NO. 1 PDP
NOTES
1. [ ] INDICATES EQUIPMENT MARKINGS
2. RESISTOR 122R2 SET FOR 22 TO 23 VOLTS AT SLIDER WITH DIMMER RESISTOR 122R1 AT BRT AND 26 VAC SUPPLIED ON BUS.
122.100
84 X 54
ROTOR TACH 054M1
054P1
G
H
W557-777-22
W557-GD017M22N
TB2
D
F
0-5VAC
W557-402-22 RED
W557-GD017L22N BLU
066P7
49
50
P
COPILOT HSI MODE SELECT PNL 066A3
RADAR ALT 195M1
195P5
17
18
W557-738-22
W557-GD017E22N
C
E
W557-401-22 RED
W557-GD017K22N BLU
066P2
63
62
COPILOT HSI 066A1
5
122T1
G
LV
HV
W557-GD040F22N
W557-785-22
W557-784-22
W557-791-22
122R2
W557-782-22
A
B
196P1
Y
X
W557-783-22
W557-GD017F22N
AIMS ALT 196M1
2
ATTITUDE 062M1
062P1
K
L
W557-781-22
W557-GD017B22N
0-26VAC
W557-780-22
FURNISHED LEADS
A
M
W557-778-20
RAD ALT DIMMING PANEL 122DS9
E
0-26VAC
122DS6 AIRSPEED
F
3
122DS1 VERTICAL VELOCITY
ENGINE TORQUE
122DS4
J
H
FURNISHED LEADS
122DS3 CLOCK
K
G
122DS5
TO TURN & SLIP LIGHTS VOLTAGE SOURCE SWITCHING ON SECONDARY COCKPIT LIGHTING CIRCUIT
4
122DS2 TURN & SLIP
COPILOT INSTRUMENT PANEL AND CONSOLE
DI45-1972-SPA

9-10.2 COPILOT'S FLIGHT INSTRUMENT PANEL LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

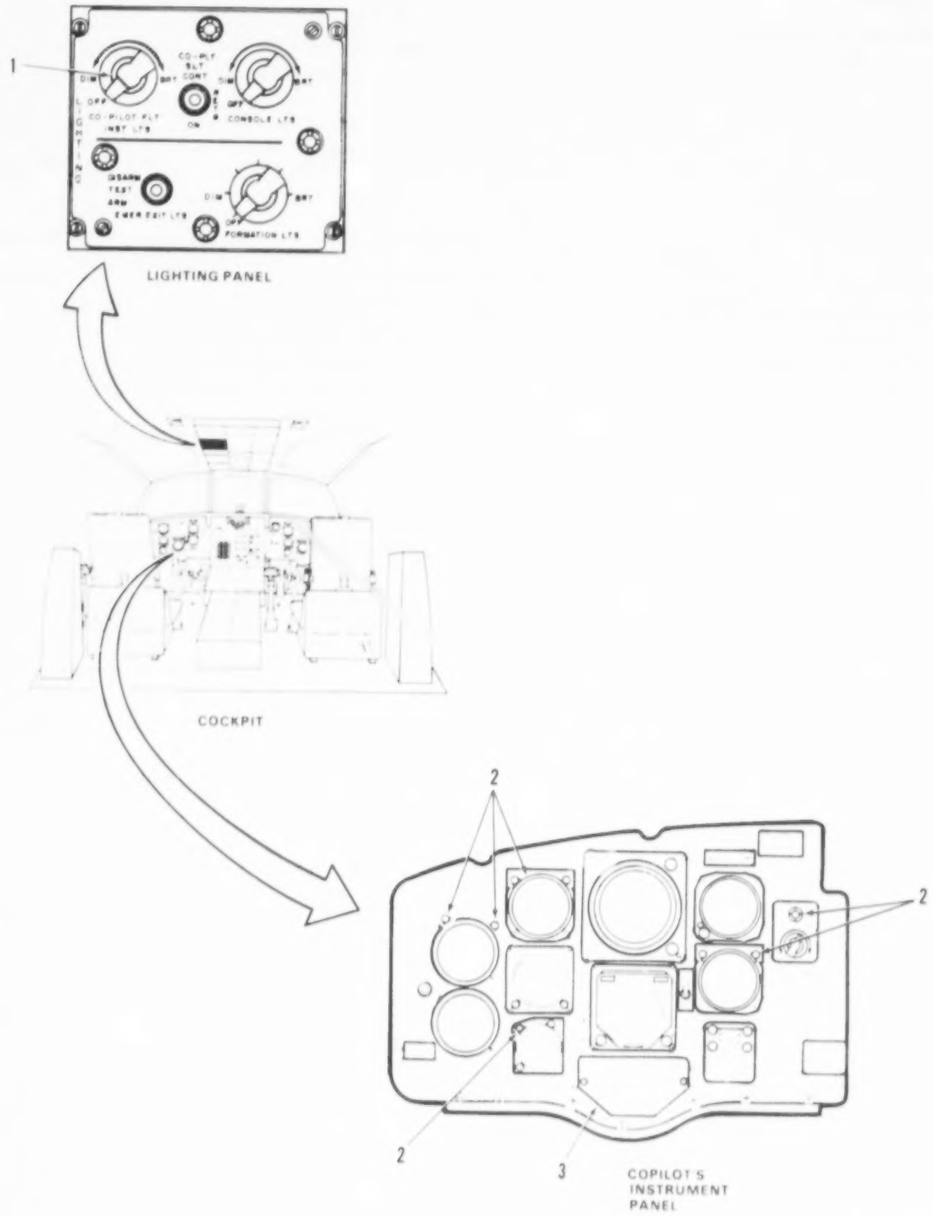
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

	TASK	RESULT
1	**Check CO-PILOT FLT INST LTS control (1).**	If control (1) is loose or damaged, tighten or replace it as required.
2	**Check six panel lights (2).**	If any panel (2) light is damaged, replace it.
3	**Check HSI MODE SELECT panel (3).**	If panel (3) is damaged, replace it.

FOLLOW-ON MAINTENANCE:
None



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0145-4223-SPA

END OF TASK

9-10.3 COPILOT'S FLIGHT INSTRUMENT PANEL LIGHTS OPERATIONAL CHECK 9-10.3

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
None

Materials:
None

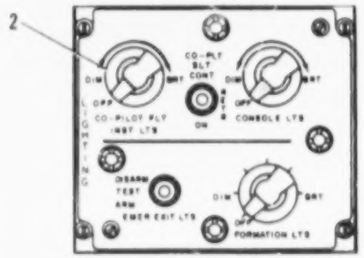
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

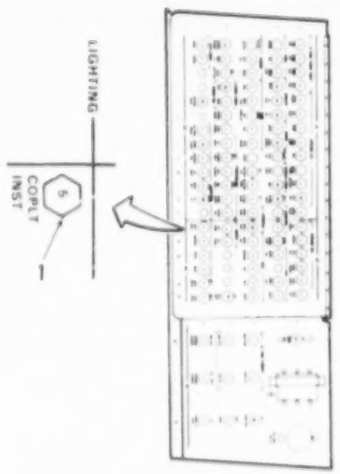
Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Copilot's Flight Instrument Panel Lights Visual Check Performed (Task 9-10.2)

TASK	RESULT
1. **Check** that **LIGHTING COPLT INST circuit breaker (1)** is closed.	If COPLT INST circuit breaker (1) is open, close it. If it opens again, go to task 9-10.4.
2. **Turn CO-PILOT FLT INST LTS control (2) from OFF through DIM to BRT.**	Following lights shall come on and increase in brightness as control (2) is rotated to BRT: a. Six panel lights (3). b. Internal lights in five indicators (4). c. Panel lights and switch captions VOR, DOP, FM, and CMD on HSI MODE SELECT panel (5). If any light is not lit, go to task 9-10.5. If light brightness does not increase, replace CO-PILOT FLT INST LTS control.
3. **Turn CO-PILOT FLT INST LTS control (2) to OFF.**	All copilot's flight instrument panel lights shall go out. If not, replace CO-PILOT FLT INST LTS control (2).

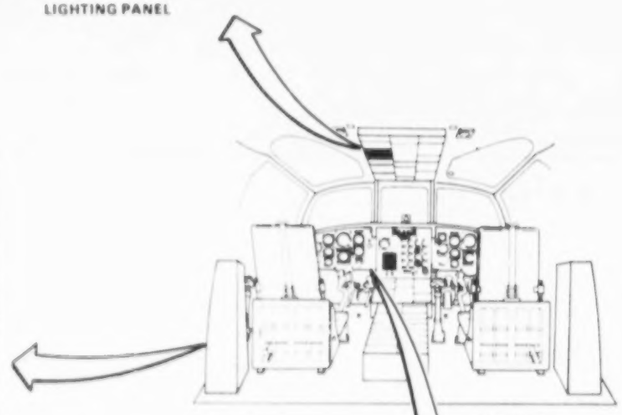
FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off

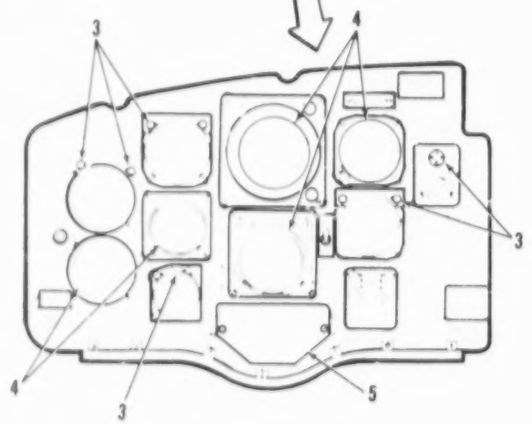


LIGHTING PANEL



NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT


COCKPIT



COPILOT'S INSTRUMENT PANEL

D45-4224-SPA

END OF TASK

9-10.4 COPLT INST CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

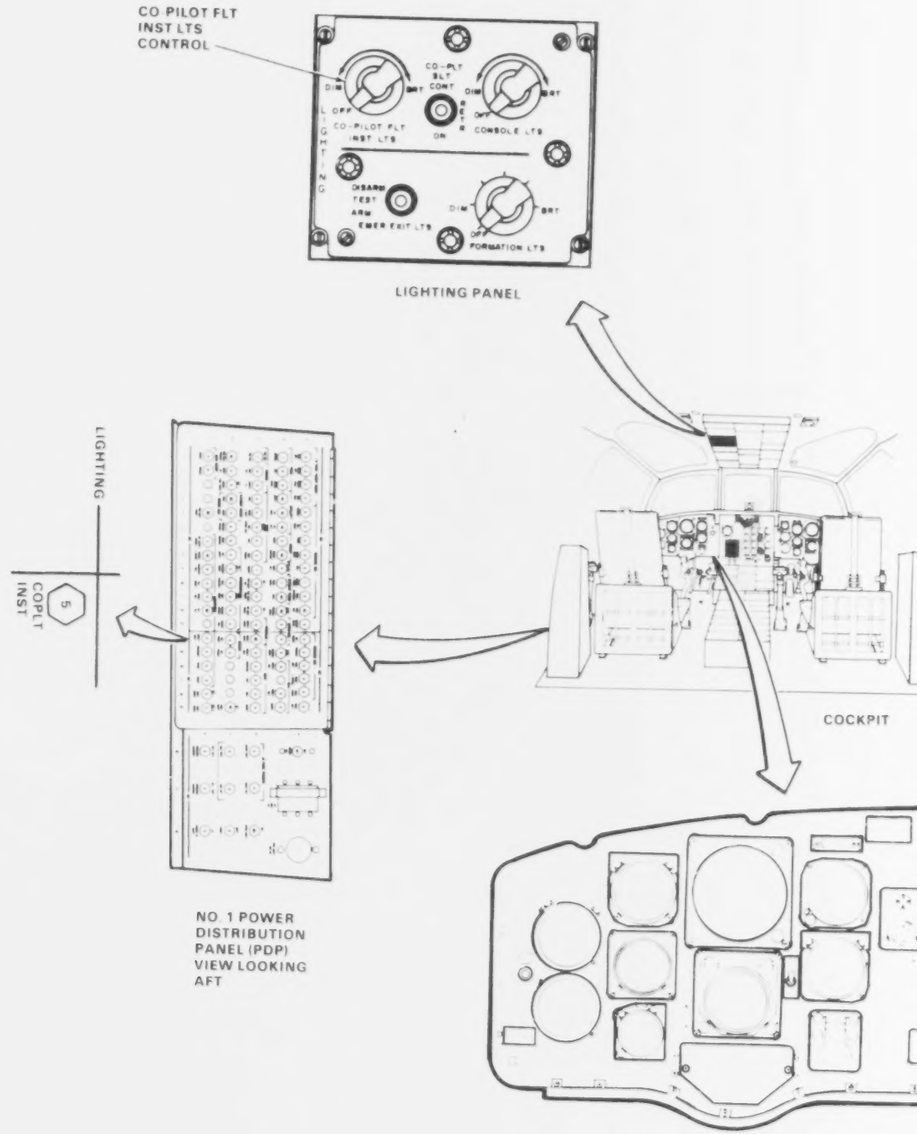
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



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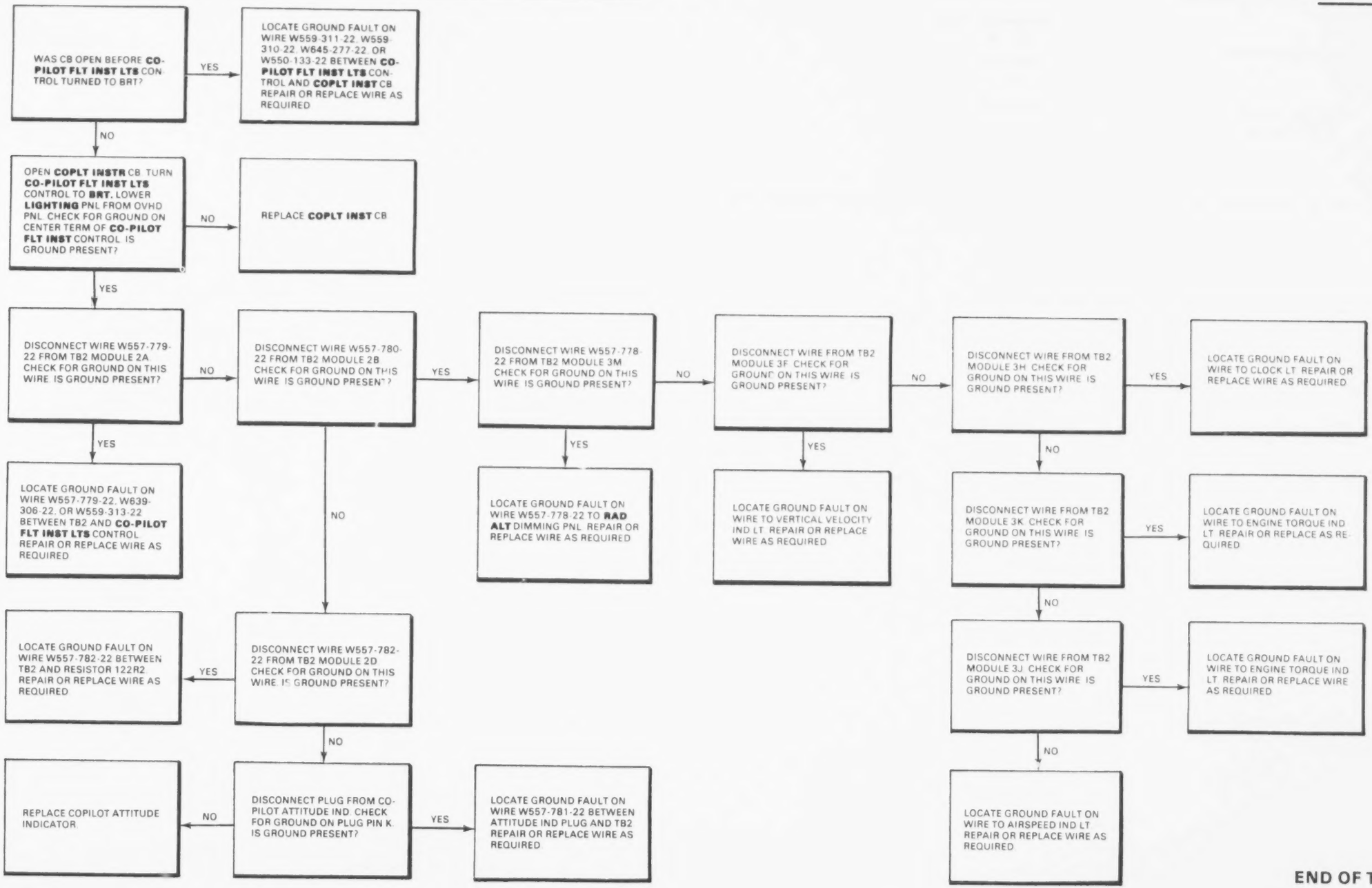
9-10.4 COPLT INST CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)


WAS CB OPEN BEFORE CO-PILOT FLT INST LTS CONTROL TURNED TO BRT?
YES
LOCATE GROUND FAULT ON WIRE W559-311-22, W559-310-22, W645-277-22, OR W550-133-22 BETWEEN CO-PILOT FLT INST LTS CONTROL AND COPLT INST CB. REPAIR OR REPLACE WIRE AS REQUIRED
NO
OPEN COPLT INSTR CB. TURN CO-PILOT FLT INST LTS CONTROL TO BRT. LOWER LIGHTING PNL FROM OVHD PNL. CHECK FOR GROUND ON CENTER TERM OF CO-PILOT FLT INST CONTROL. IS GROUND PRESENT?
NO
REPLACE COPLT INST CB
YES
DISCONNECT WIRE W557-779-22 FROM TB2 MODULE 2A. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
DISCONNECT WIRE W557-780-22 FROM TB2 MODULE 2B. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
YES
DISCONNECT WIRE W557-778-22 FROM TB2 MODULE 3M. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
DISCONNECT WIRE FROM TB2 MODULE 3F. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
DISCONNECT WIRE FROM TB2 MODULE 3H. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE TO CLOCK LT. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE GROUND FAULT ON WIRE W557-779-22, W639-306-22, OR W559-313-22 BETWEEN TB2 AND CO-PILOT FLT INST LTS CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED
NO
YES
LOCATE GROUND FAULT ON WIRE W557-778-22 TO RAD ALT DIMMING PNL. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE GROUND FAULT ON WIRE TO VERTICAL VELOCITY IND LT. REPAIR OR REPLACE WIRE AS REQUIRED
NO
DISCONNECT WIRE FROM TB2 MODULE 3K. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE TO ENGINE TORQUE IND LT. REPAIR OR REPLACE AS REQUIRED
NO
DISCONNECT WIRE FROM TB2 MODULE 3J. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE TO ENGINE TORQUE IND LT. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE GROUND FAULT ON WIRE TO AIRSPEED IND LT. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W557-782-22 BETWEEN TB2 AND RESISTOR 122R2. REPAIR OR REPLACE WIRE AS REQUIRED
YES
DISCONNECT WIRE W557-782-22 FROM TB2 MODULE 2D. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
REPLACE COPILOT ATTITUDE INDICATOR
NO
DISCONNECT PLUG FROM CO-PILOT ATTITUDE IND. CHECK FOR GROUND ON PLUG PIN K. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W557-781-22 BETWEEN ATTITUDE IND PLUG AND TB2. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

9-10.5 COPILOT'S FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

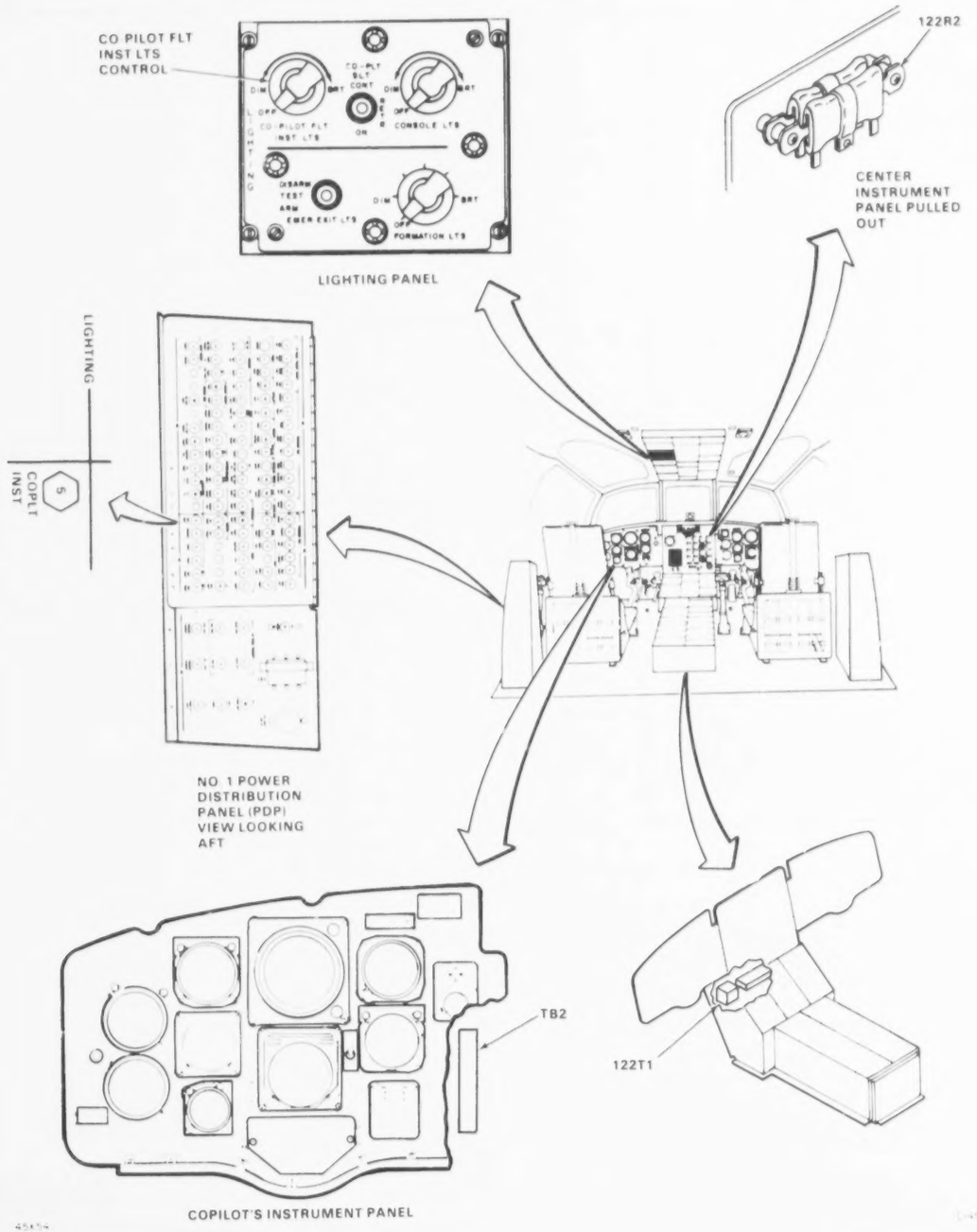
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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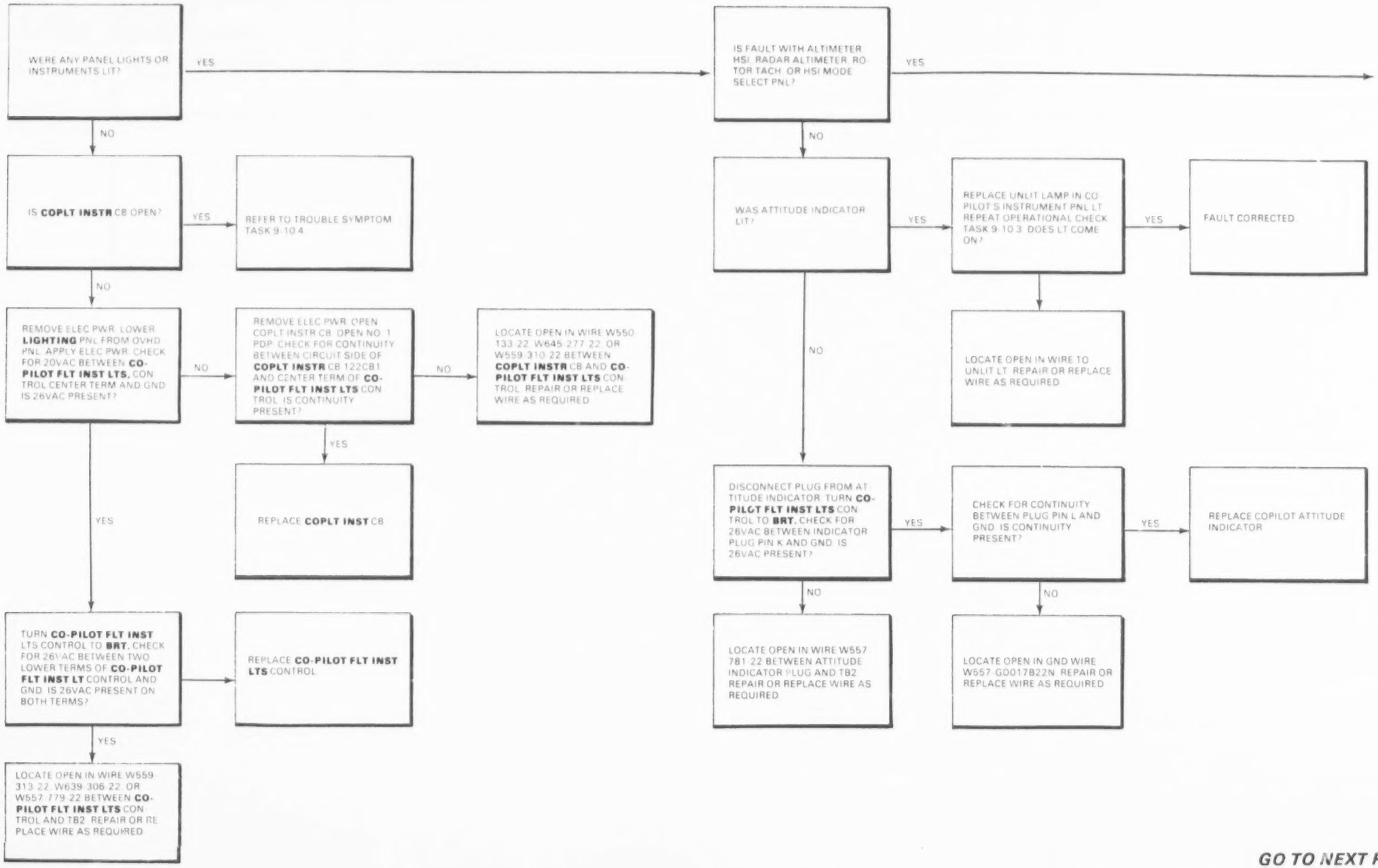
9-10.5 COPILOT'S FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT (Continued)


WERE ANY PANEL LIGHTS OR INSTRUMENTS LIT?
YES
NO
IS FAULT WITH ALTIMETER HSI RADAR ALTIMETER RO TOR TACH OR HSI MODE SELECT PNL?
YES
NO
IS **COPLT INSTR** CB OPEN?
YES
REFER TO TROUBLE SYMPTOM TASK 9-10.4
NO
WAS ATTITUDE INDICATOR LIT?
YES
REPLACE UNLIT LAMP IN CO PILOT S INSTRUMENT PNL LT REPEAT OPERATIONAL CHECK TASK 9-10.3. DOES LT COME ON?
YES
FAULT CORRECTED
REMOVE ELEC PWR LOWER **LIGHTING** PNL FROM OVHD PNL APPLY ELEC PWR CHECK FOR 20VAC BETWEEN **CO-PILOT FLT INST LTS**, CON TROL CENTER TERM AND GND IS 26VAC PRESENT?
NO
REMOVE ELEC PWR OPEN COPLT INSTR CB OPEN NO 1 PDP CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF **COPLT INSTR** CB 122CB1 AND CENTER TERM OF **CO-PILOT FLT INST LTS** CON TROL IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W550 133-22 W645-277-22 OR W559-310-22 BETWEEN **COPLT INSTR** CB AND **CO-PILOT FLT INST LTS** CON TROL REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE **COPLT INST** CB
LOCATE OPEN IN WIRE TO UNLIT LT REPAIR OR REPLACE WIRE AS REQUIRED
NO
YES
DISCONNECT PLUG FROM AT TITUDE INDICATOR TURN **CO-PILOT FLT INST LTS** CON TROL TO **BRT**. CHECK FOR 26VAC BETWEEN INDICATOR PLUG PIN K AND GND IS 26VAC PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG PIN L AND GND IS CONTINUITY PRESENT?
YES
REPLACE COPILOT ATTITUDE INDICATOR
NO
LOCATE OPEN IN WIRE W557 781-22 BETWEEN ATTITUDE INDICATOR PLUG AND TB2 REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN GND WIRE W557 GD017822N REPAIR OR REPLACE WIRE AS REQUIRED
TURN **CO-PILOT FLT INST** LTS CONTROL TO **BRT**. CHECK FOR 26VAC BETWEEN TWO LOWER TERMS OF **CO-PILOT FLT INST LT** CONTROL AND GND IS 26VAC PRESENT ON BOTH TERMS?
YES
REPLACE **CO-PILOT FLT INST LTS** CONTROL
YES
LOCATE OPEN IN WIRE W559 313-22 W639-306-22 OR W557 779-22 BETWEEN **CO-PILOT FLT INST LTS** CON TROL AND TB2 REPAIR OR RE PLACE WIRE AS REQUIRED

GO TO NEXT PAGE

9-10.5 COPILOT'S FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT (Continued)

YES
WAS ONLY ONE INDICATOR OR PNL NOT LIT?
NO
TURN **CO-PILOT FLT INST LTS** CONTROL TO **BRT**. CHECK FOR 26VAC BETWEEN **HV** TERM OF TRANSFORMER 122T1 AND GND. IS 26VAC PRESENT?
NO
REMOVE ELEC PWR. CHECK FOR CONTINUITY BETWEEN TERM **HV** OF TRANSFORMER 122T1 AND RESISTOR 122R2 SLIDER TAB. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W557 791 22 OR W557 784 22 BETWEEN TRANSFORMER 122T1 AND RESISTOR 122R2. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR 5VAC BETWEEN **LV** TERM OF TRANSFORMER 122T1 AND GND. IS 5VAC PRESENT?
NO
REPLACE TRANSFORMER 122T1
YES
CHECK FOR 2 TO 4 OHMS RESISTANCE ACROSS RESISTOR 122R2. IS 2 TO 4 OHMS RESISTANCE PRESENT?
NO
REPLACE RESISTOR 122R2
YES
LOCATE OPEN IN WIRE W557 785 22 BETWEEN 122T1 AND TB2. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE OPEN IN WIRE W557 782 22 BETWEEN TB2 AND RESISTOR 122R2. REPAIR OR REPLACE WIRE AS REQUIRED
YES
DISCONNECT PLUG FROM INDICATOR OR PNL. TURN **CO-PILOT FLT INST LTS** CONTROL TO **BRT**. CHECK FOR 5VAC BETWEEN PLUG PIN (REFER TO WIRING DIAG on 9 10 1 FOR PIN LETTERS) AND GND. IS 5VAC PRESENT?
NO
LOCATE OPEN IN POWER WIRE BETWEEN TB2 AND INDICATOR OR PANEL. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK GROUND WIRE FOR CONTINUITY BETWEEN PLUG PIN (REFER TO WIRING DIAG 9 10 1 FOR PIN LETTERS) AND GND. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN GROUND WIRE. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE UNLIT INDICATOR OR PANEL LT

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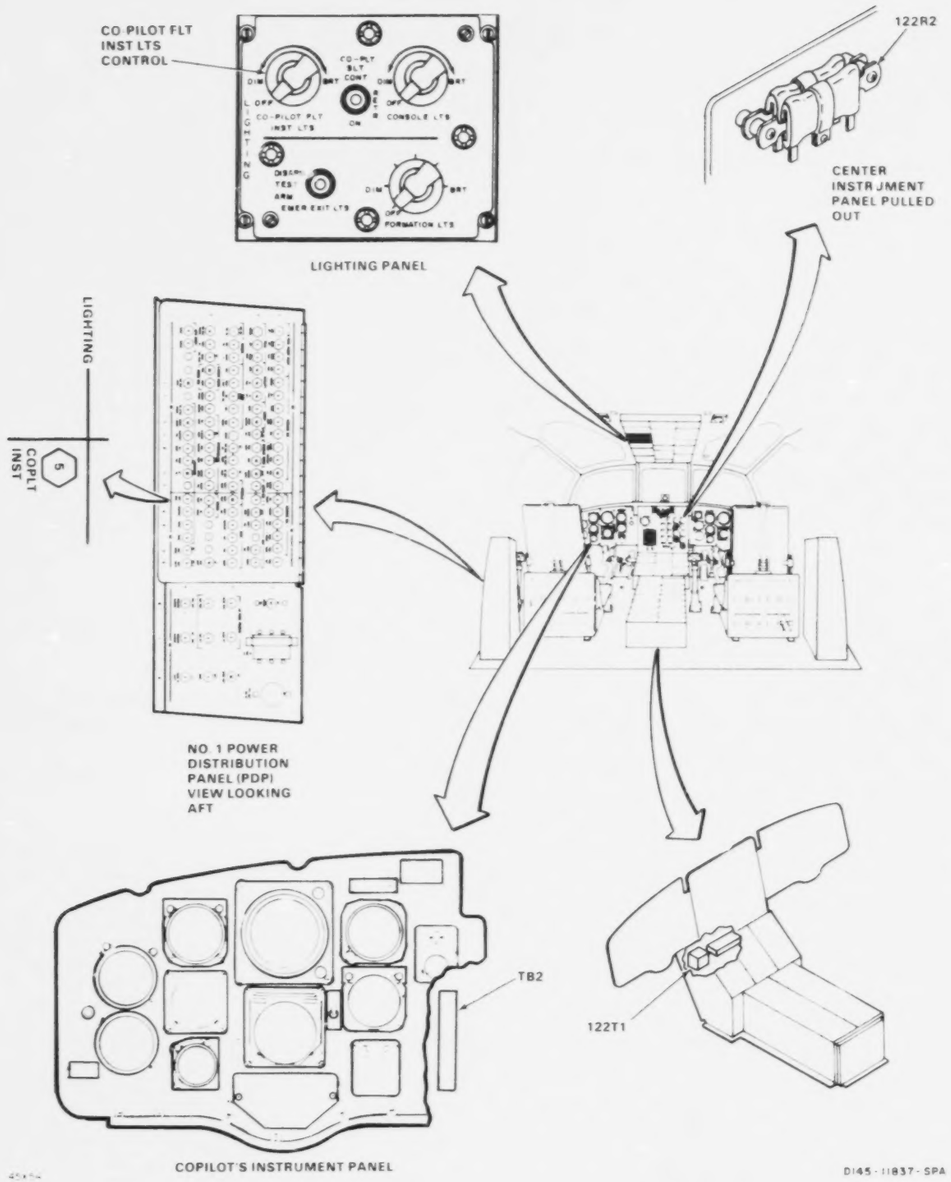

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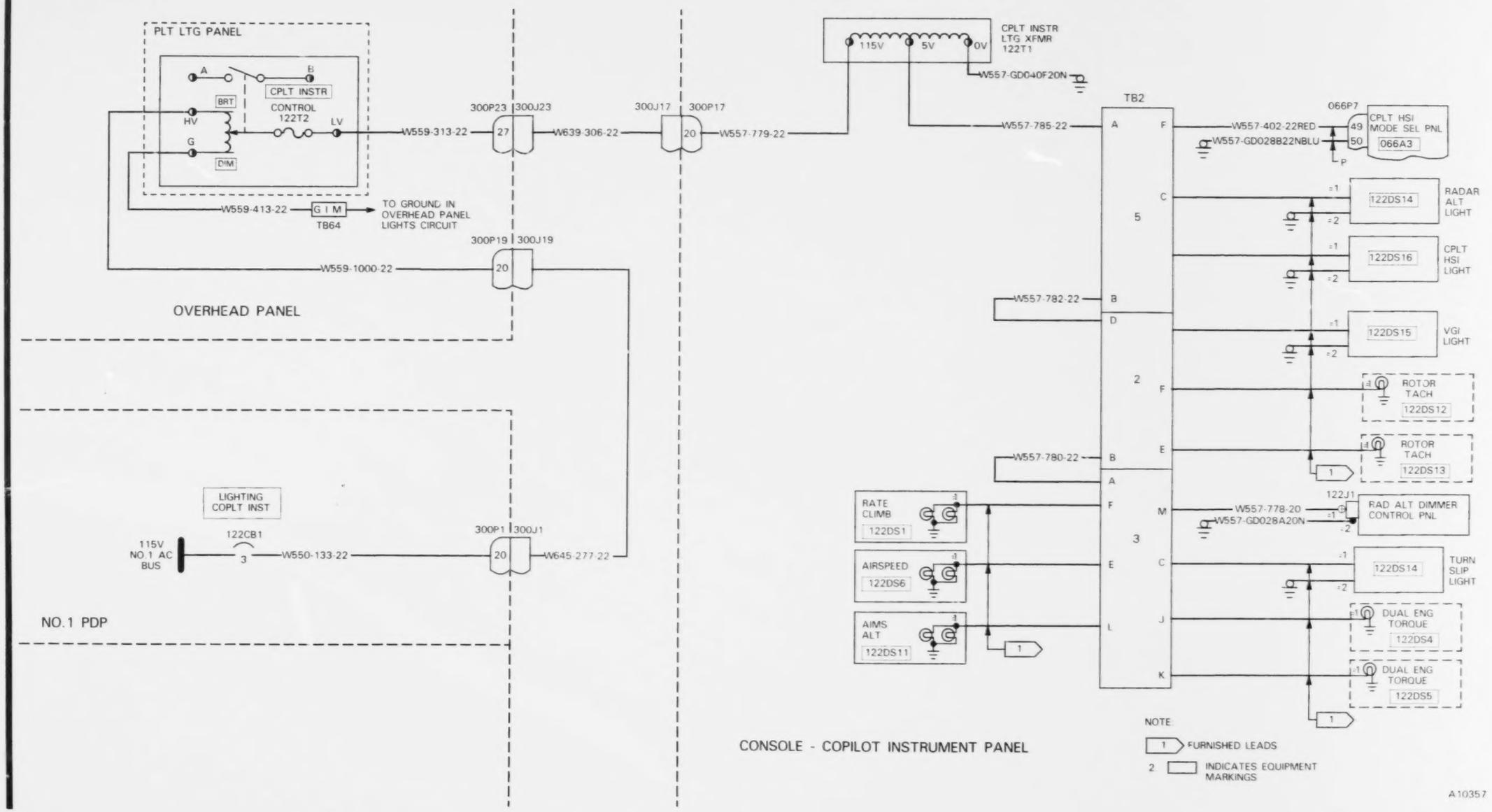

PLT LTG PANEL
A
B
CPLT INSTR
CONTROL
122T2
BRT
HV
G
DIM
LV
W559-313-22
300P23
300J23
27
W639-306-22
300J17
300P17
20
W557-779-22
CPLT INSTR
LTG XFMR
122T1
115V
5V
0V
W557-GD040F20N
W557-785-22
TB2
A
F
C
5
B
D
2
F
E
B
A
F
E
3
M
C
J
L
K
066P7
49
50
W557-402-22RED
W557-GD028B22NBLU
CPLT HSI
MODE SEL PNL
066A3
122DS14
RADAR
ALT
LIGHT
122DS16
CPLT
HSI
LIGHT
122DS15
VGI
LIGHT
ROTOR
TACH
122DS12
ROTOR
TACH
122DS13
122J1
RAD ALT DIMMER
CONTROL PNL
W557-778-20
W557-GD028A20N
122DS14
TURN
SLIP
LIGHT
DUAL ENG
TORQUE
122DS4
DUAL ENG
TORQUE
122DS5
W557-782-22
W557-780-22
RATE
CLIMB
122DS1
AIRSPEED
122DS6
AIMS
ALT
122DS11
W559-413-22
G I M
TB64
TO GROUND IN
OVERHEAD PANEL
LIGHTS CIRCUIT
300P19
300J19
20
W559-1000-22
OVERHEAD PANEL
LIGHTING
COPLT INST
115V
NO.1 AC
BUS
122CB1
3
W550-133-22
300P1
300J1
20
W645-277-22
NO.1 PDP
CONSOLE - COPILOT INSTRUMENT PANEL
NOTE:
1 FURNISHED LEADS
2 INDICATES EQUIPMENT MARKINGS
A10357

END OF TASK

9-10.7 COPILOT'S FLIGHT INSTRUMENT PANEL LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

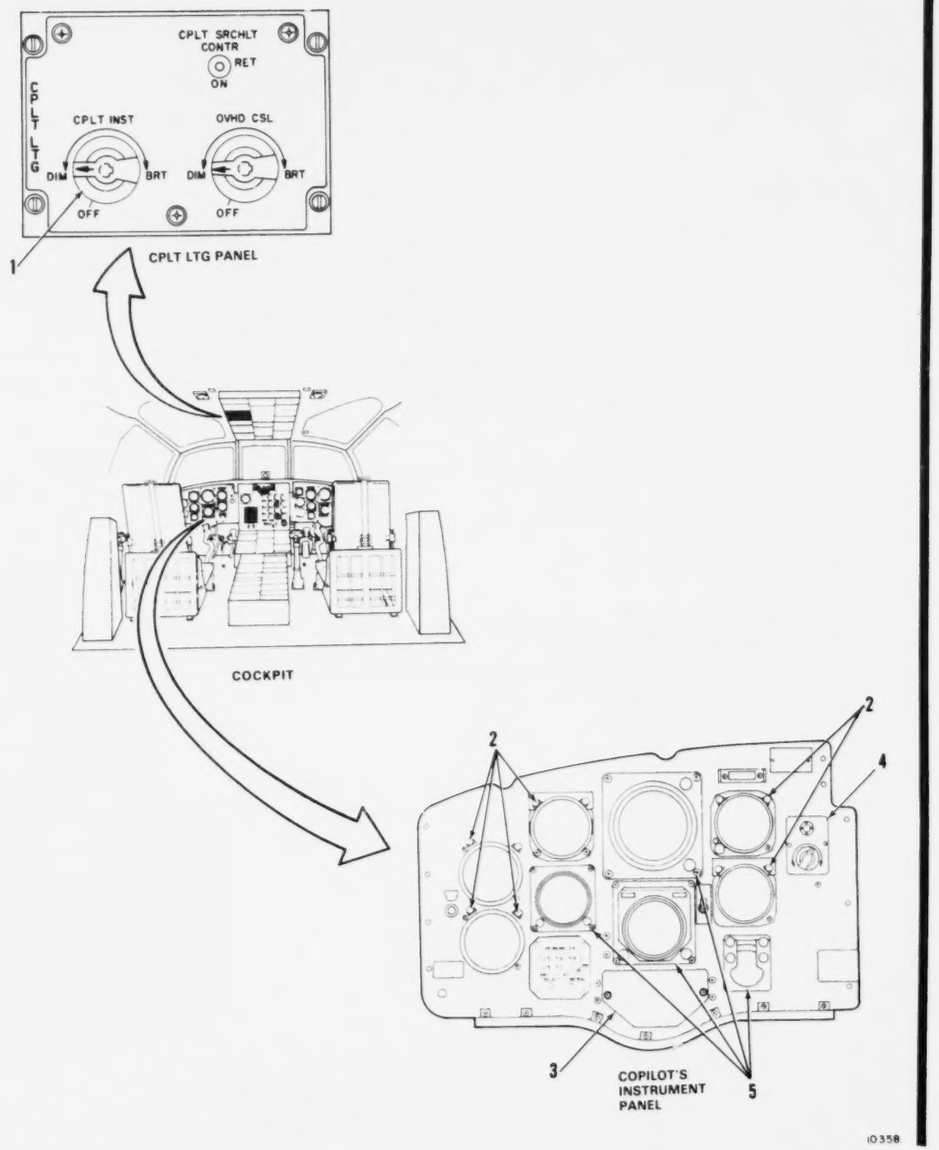
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check CO-PILOT FLT INST LTS control (1).**	If control (1) is loose or damaged, tighten or replace it as required.
2. **Check panel lights (2).**	If any panel (2) light is damaged, replace it.
3. **Check HSI MODE SELECT panel (3).**	If panel (3) is damaged, replace it.
4. Check RAD ALT DIM panel (4).	If panel (4) is damaged, replace it.
5. Check lighting bezels (5).	If any bezel (5) is damaged, replace it.

FOLLOW-ON MAINTENANCE:
None



END OF TASK

9-10.8 COPILOT'S FLIGHT INSTRUMENT PANEL LIGHTS OPERATIONAL CHECK 9-10.8

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
None

Materials:
None

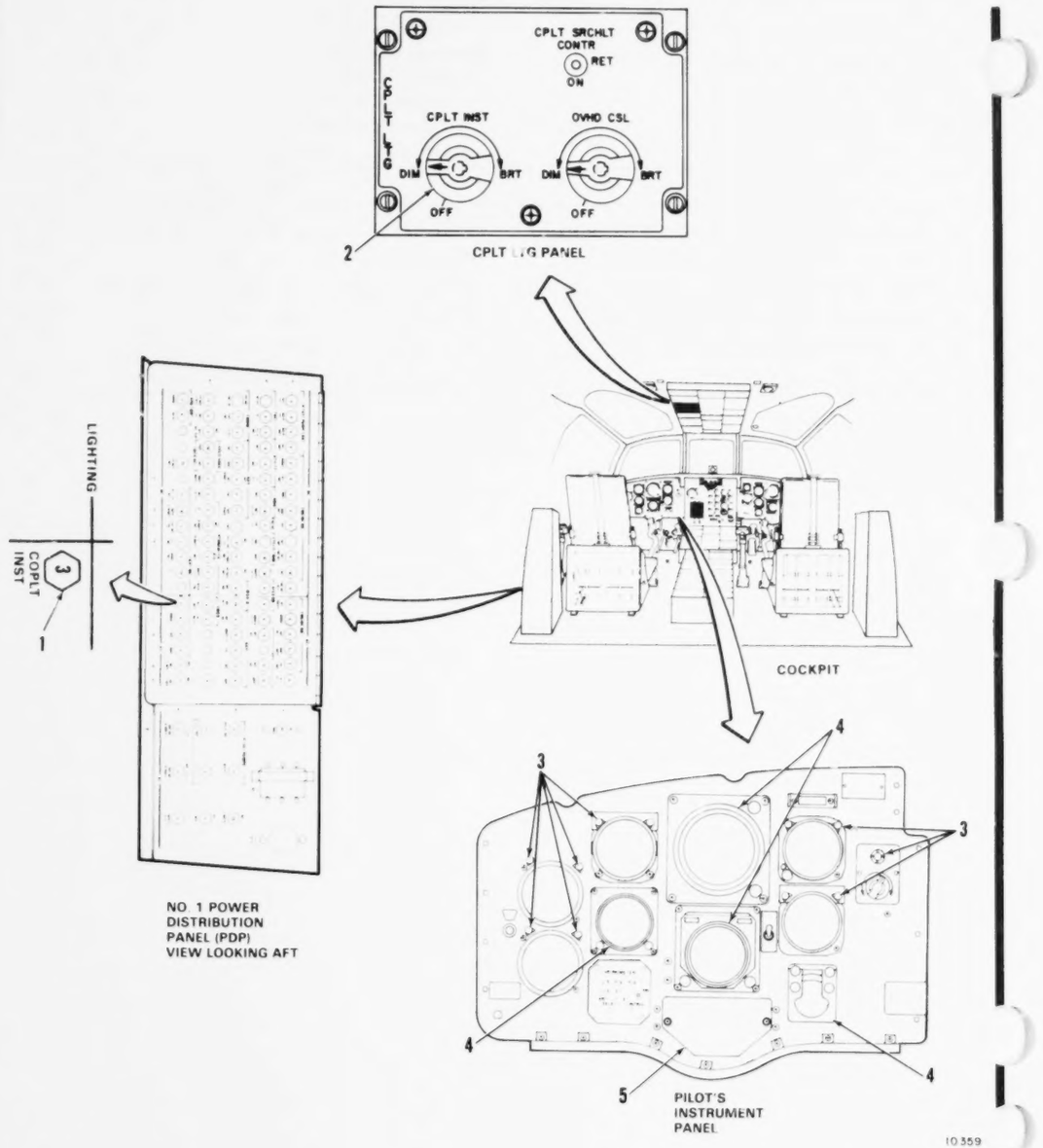
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Copilot's Flight Instrument Panel Lights Visual Check Performed (Task 9-10.2)

TASK	RESULT
1. **Check** that **LIGHTING COPLT INST circuit breaker (1)** is closed.	If COPLT INST circuit breaker (1) is open, close it. If it opens again, go to task 9-10.9.
2. **Turn CPLT INST light control (2) from OFF through DIM to BRT.**	Following lights shall come on and increase in brightness as control (2) is rotated to BRT: a. Panel lights (3). b. Internal lights in indicators (4). c. Panel lights and switch captions VOR, DOP, FM, and CMD on HSI MODE SELECT panel (5). If any light is not lit, go to task 9-10.10. If light brightness does not increase, replace CPLT INST lights control.
3. **Turn CPLT INST lights control (2) to OFF.**	All copilot's flight instrument panel lights shall go out. If not, replace **CPLT INST** light control (2).

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off



45x48

END OF TASK

9-10.9 COPLT INST CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

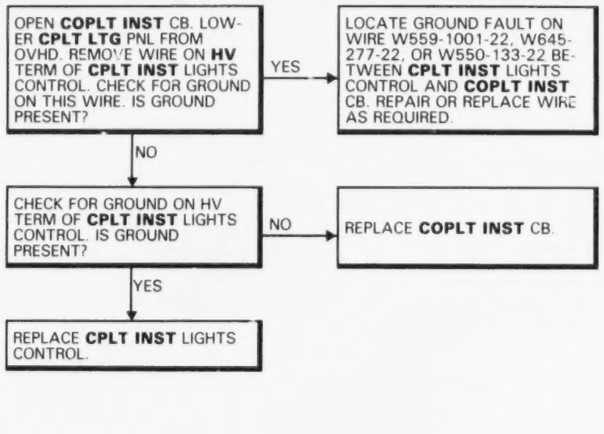
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

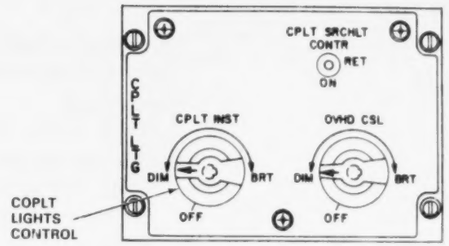
Materials:
None

Personnel Required:
Aircraft Electrician

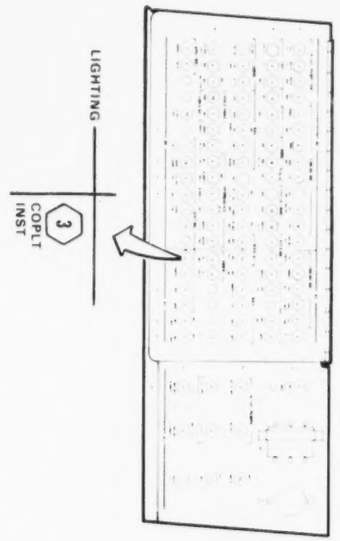
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

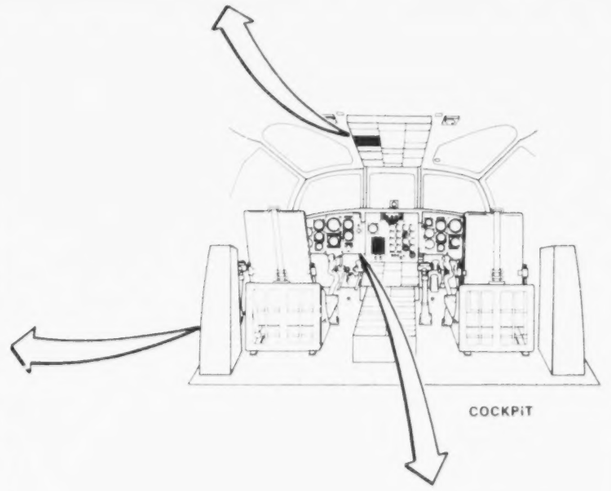

OPEN **COPLT INST** CB. LOWER **CPLT LTG** PNL FROM OVHD. REMOVE WIRE ON **HV** TERM OF **CPLT INST** LIGHTS CONTROL. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W559-1001-22, W645-277-22, OR W550-133-22 BETWEEN **CPLT INST** LIGHTS CONTROL AND **COPLT INST** CB. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR GROUND ON HV TERM OF **CPLT INST** LIGHTS CONTROL. IS GROUND PRESENT?
NO
REPLACE **COPLT INST** CB.
YES
REPLACE **CPLT INST** LIGHTS CONTROL.

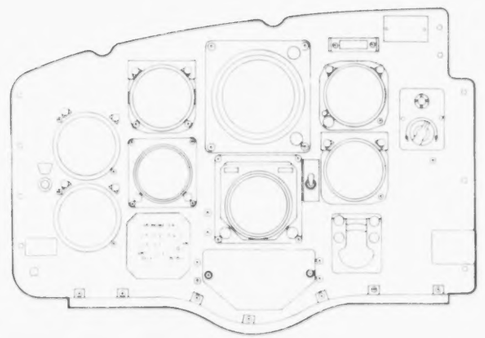


CPLT LTG PANEL



NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT


COCKPIT


COPILOT'S INSTRUMENT PANEL

10360

END OF TASK

9-10.10 COPILOT'S FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

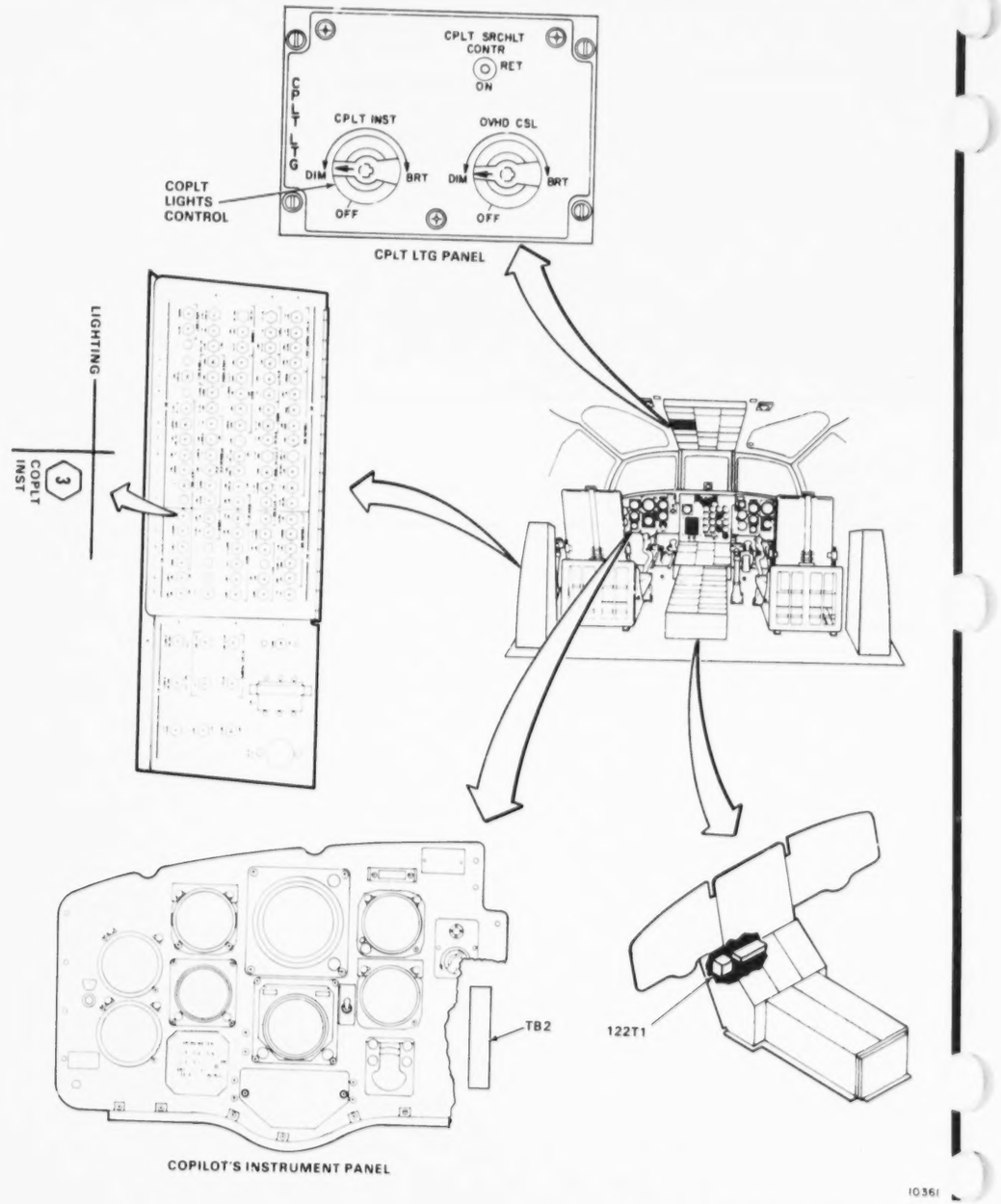
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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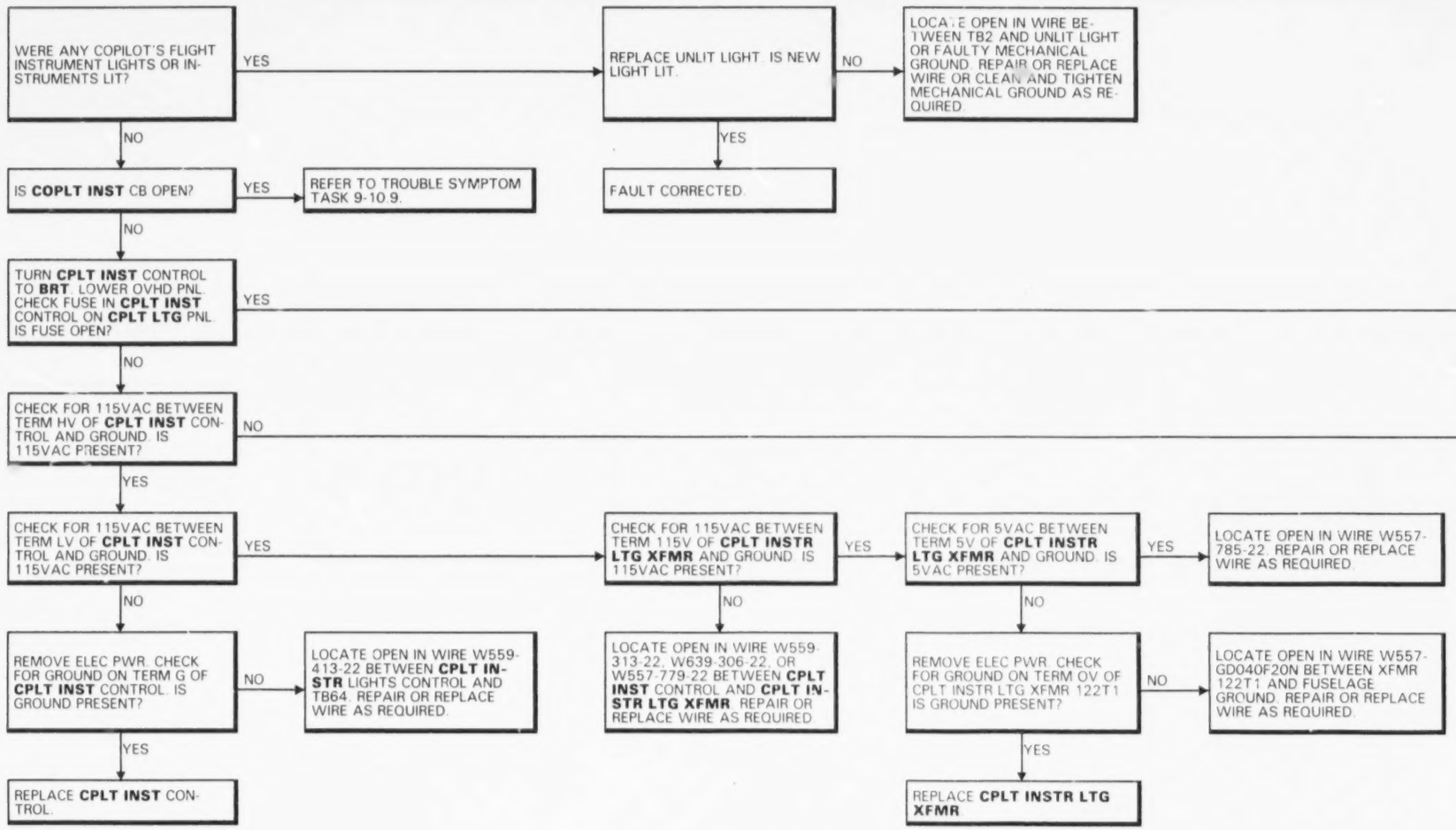
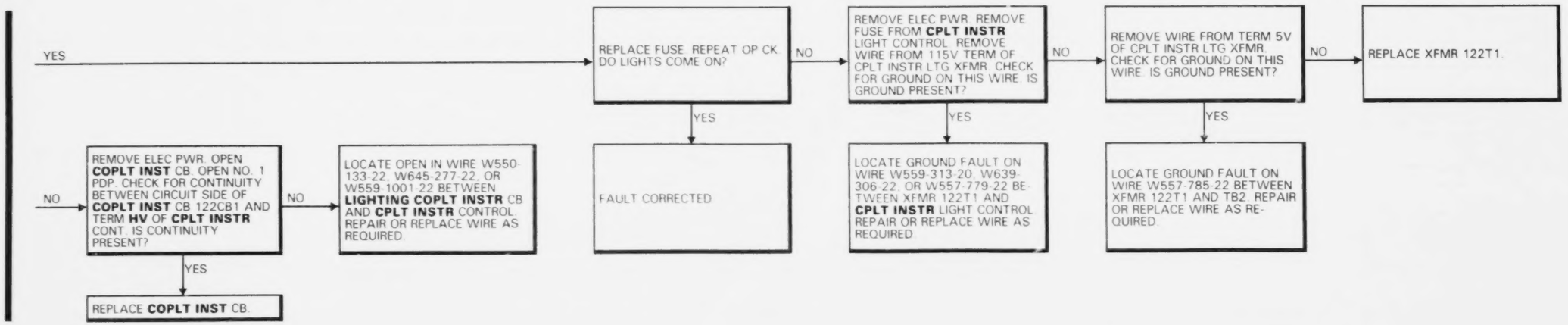

WERE ANY COPILOT'S FLIGHT INSTRUMENT LIGHTS OR INSTRUMENTS LIT?
YES
REPLACE UNLIT LIGHT. IS NEW LIGHT LIT.
NO
LOCATE OPEN IN WIRE BETWEEN TB2 AND UNLIT LIGHT OR FAULTY MECHANICAL GROUND. REPAIR OR REPLACE WIRE OR CLEAN AND TIGHTEN MECHANICAL GROUND AS REQUIRED.
YES
FAULT CORRECTED.
NO
IS **COPLT INST** CB OPEN?
YES
REFER TO TROUBLE SYMPTOM TASK 9-10.9.
NO
TURN **CPLT INST** CONTROL TO **BRT**. LOWER OVHD PNL. CHECK FUSE IN **CPLT INST** CONTROL ON **CPLT LTG** PNL. IS FUSE OPEN?
YES
NO
CHECK FOR 115VAC BETWEEN TERM HV OF **CPLT INST** CONTROL AND GROUND. IS 115VAC PRESENT?
NO
YES
CHECK FOR 115VAC BETWEEN TERM LV OF **CPLT INST** CONTROL AND GROUND. IS 115VAC PRESENT?
YES
CHECK FOR 115VAC BETWEEN TERM 115V OF **CPLT INSTR LTG XFMR** AND GROUND. IS 115VAC PRESENT?
YES
CHECK FOR 5VAC BETWEEN TERM 5V OF **CPLT INSTR LTG XFMR** AND GROUND. IS 5VAC PRESENT?
YES
LOCATE OPEN IN WIRE W557-785-22. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
NO
NO
REMOVE ELEC PWR. CHECK FOR GROUND ON TERM G OF **CPLT INST** CONTROL. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W559-413-22 BETWEEN **CPLT INSTR** LIGHTS CONTROL AND TB64. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE OPEN IN WIRE W559-313-22, W639-306-22, OR W557-779-22 BETWEEN **CPLT INST** CONTROL AND **CPLT INSTR LTG XFMR**. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELEC PWR. CHECK FOR GROUND ON TERM 0V OF CPLT INSTR LTG XFMR 122T1 IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W557-GD040F20N BETWEEN XFMR 122T1 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
YES
YES
REPLACE **CPLT INST** CONTROL.
REPLACE **CPLT INSTR LTG XFMR**.

GO TO NEXT PAGE

9-10.10 COPILOT'S FLIGHT INSTRUMENT PANEL LIGHT OR LIGHTS NOT LIT (Continued)


YES
REPLACE FUSE. REPEAT OP CK. DO LIGHTS COME ON?
NO
REMOVE ELEC PWR. REMOVE FUSE FROM **CPLT INSTR** LIGHT CONTROL. REMOVE WIRE FROM 115V TERM OF CPLT INSTR LTG XFMR. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
REMOVE WIRE FROM TERM 5V OF CPLT INSTR LTG XFMR. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
REPLACE XFMR 122T1.
YES
FAULT CORRECTED.
YES
LOCATE GROUND FAULT ON WIRE W559-313-20, W639-306-22, OR W557-779-22 BETWEEN XFMR 122T1 AND **CPLT INSTR** LIGHT CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W557-785-22 BETWEEN XFMR 122T1 AND TB2. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE ELEC PWR. OPEN **COPLT INST** CB. OPEN NO. 1 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF **COPLT INST** CB 122CB1 AND TERM **HV** OF **CPLT INSTR** CONT. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W550-133-22, W645-277-22, OR W559-1001-22 BETWEEN **LIGHTING COPLT INSTR** CB AND **CPLT INSTR** CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE **COPLT INST** CB.

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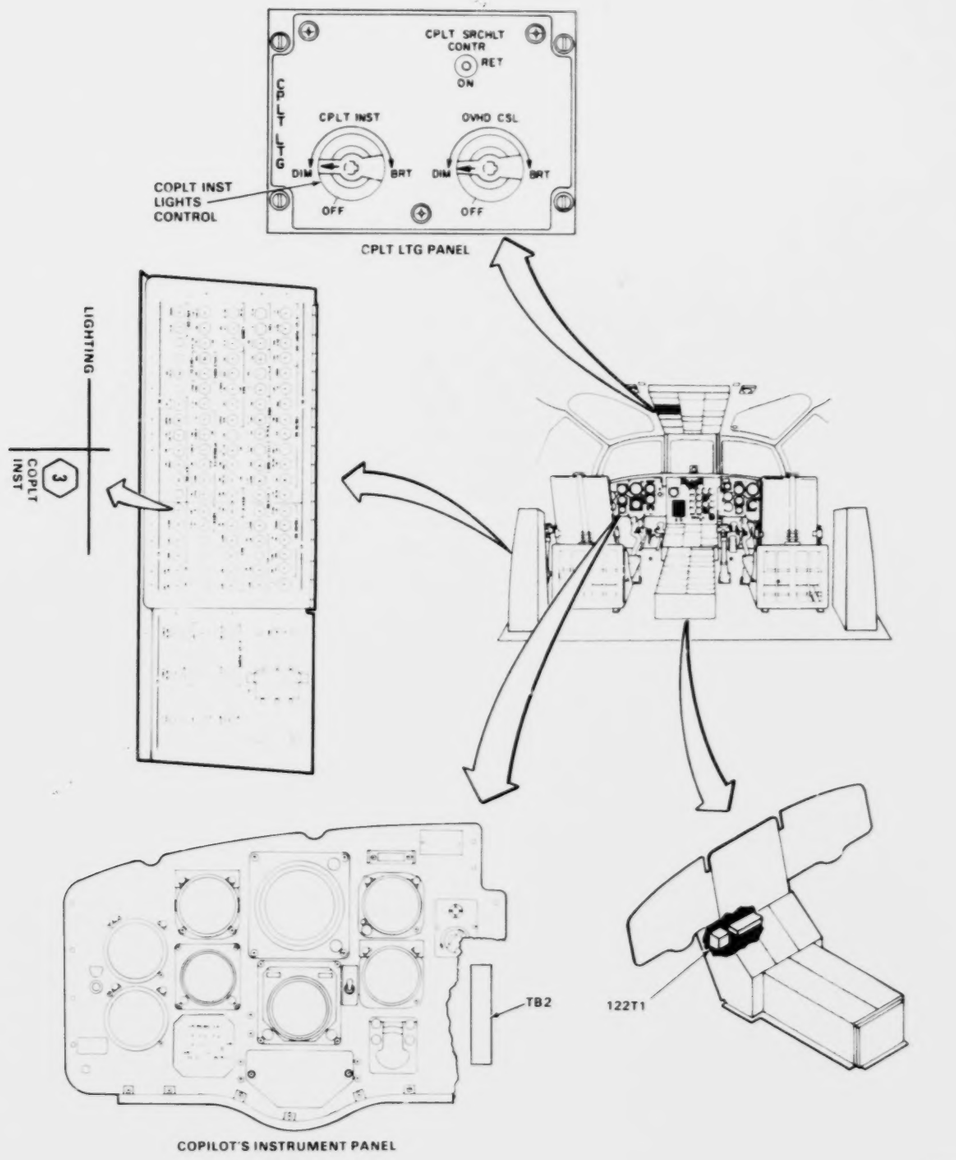
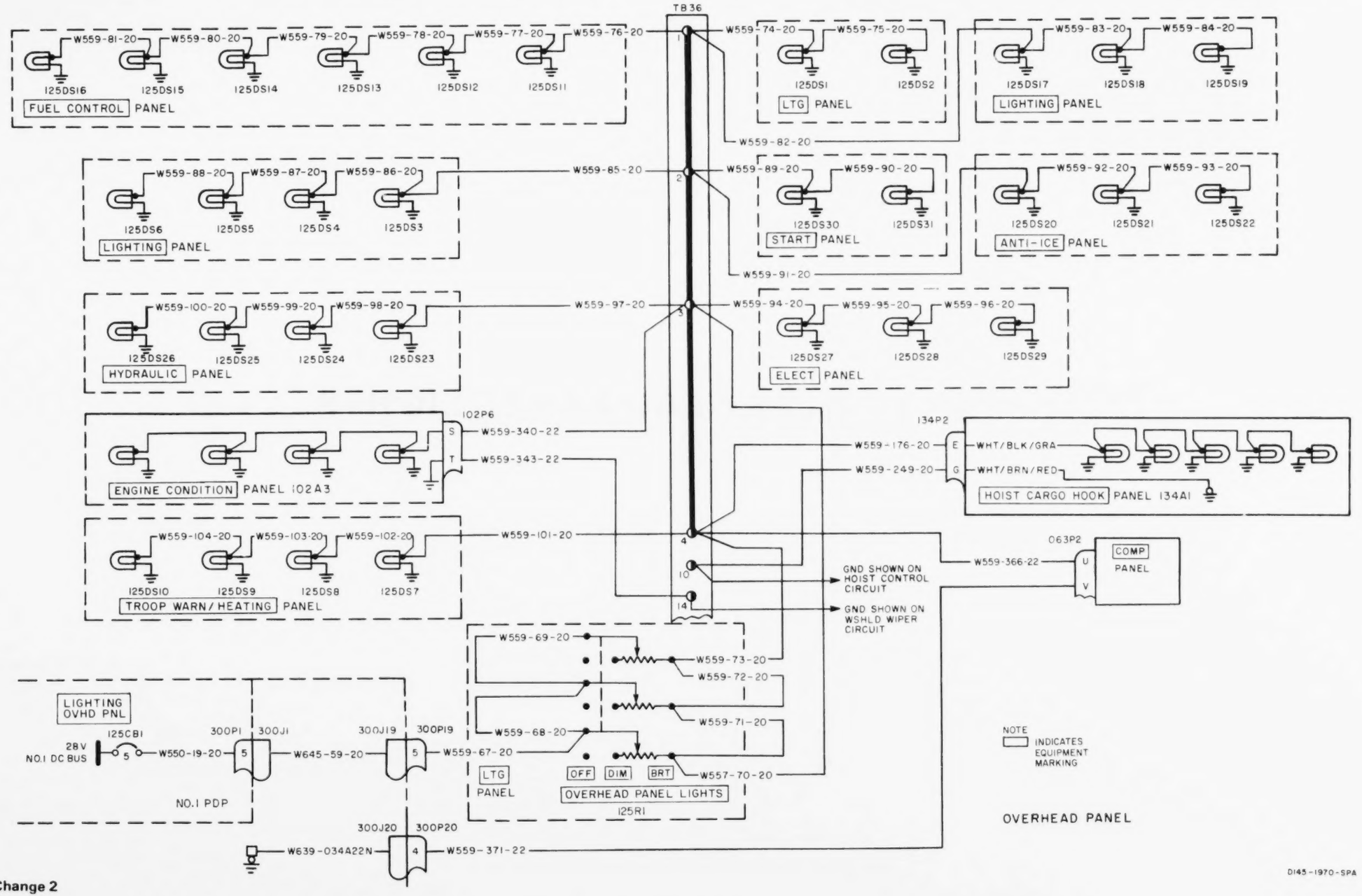

CPLT SPCHLT CONTR
RET
ON
CPLT LTG
CPLT INST
OVHD CSL
DIM
BRT
OFF
COPLT INST LIGHTS CONTROL
CPLT LTG PANEL
LIGHTING
COPLT INST
3
TB2
122T1
COPILOT'S INSTRUMENT PANEL
11637

9-11 OVERHEAD PANEL LIGHTS


TB36
W559-81-20
W559-80-20
W559-79-20
W559-78-20
W559-77-20
W559-76-20
125DS16
125DS15
125DS14
125DS13
125DS12
125DS11
FUEL CONTROL PANEL
W559-74-20
W559-75-20
125DS1
125DS2
LTG PANEL
W559-83-20
W559-84-20
125DS17
125DS18
125DS19
LIGHTING PANEL
W559-82-20
W559-88-20
W559-87-20
W559-86-20
W559-85-20
125DS6
125DS5
125DS4
125DS3
LIGHTING PANEL
W559-89-20
W559-90-20
125DS30
125DS31
START PANEL
W559-92-20
W559-93-20
125DS20
125DS21
125DS22
ANTI-ICE PANEL
W559-91-20
W559-100-20
W559-99-20
W559-98-20
W559-97-20
125DS26
125DS25
125DS24
125DS23
HYDRAULIC PANEL
W559-94-20
W559-95-20
W559-96-20
125DS27
125DS28
125DS29
ELECT PANEL
102P6
S
T
W559-340-22
W559-343-22
ENGINE CONDITION PANEL 102A3
134P2
E
G
W559-176-20
W559-249-20
WHT/BLK/GRA
WHT/BRN/RED
HOIST CARGO HOOK PANEL 134A1
W559-104-20
W559-103-20
W559-102-20
W559-101-20
125DS10
125DS9
125DS8
125DS7
TROOP WARN/HEATING PANEL
063P2
U
V
COMP
PANEL
W559-366-22
GND SHOWN ON HOIST CONTROL CIRCUIT
GND SHOWN ON WSHLD WIPER CIRCUIT
W559-69-20
W559-73-20
W559-72-20
W559-71-20
W559-68-20
W559-67-20
W557-70-20
LIGHTING OVHD PNL
125CB1
28V NO.1 DC BUS
W550-19-20
300P1
300J1
W645-59-20
300J19
300P19
NO.1 PDP
LTG PANEL
OFF
DIM
BRT
OVERHEAD PANEL LIGHTS
125R1
300J20
300P20
W639-034A22N
W559-371-22
NOTE
INDICATES EQUIPMENT MARKING
OVERHEAD PANEL
D145-1970-SPA

9-11.2 OVERHEAD PANEL LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

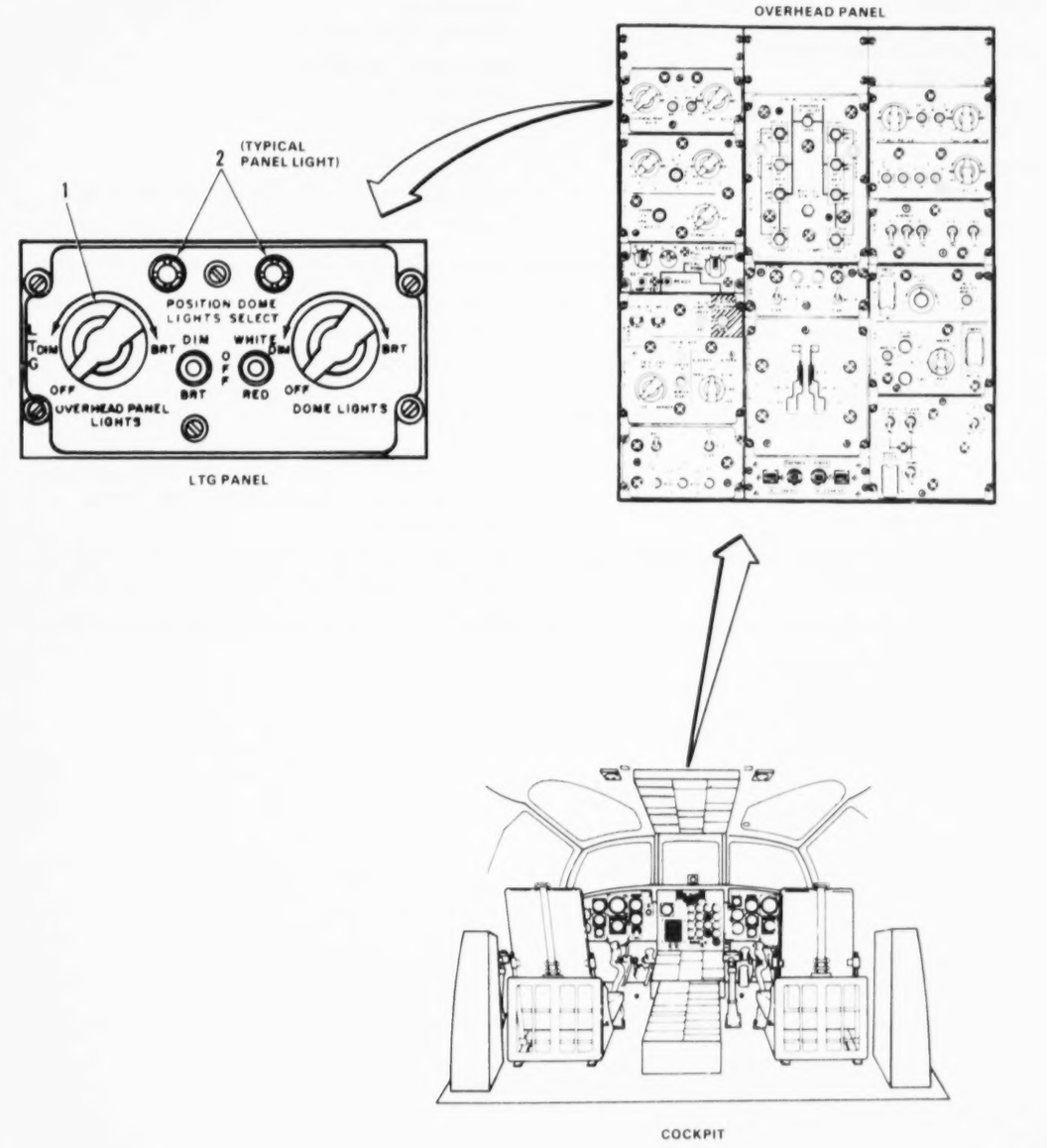
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check OVERHEAD PANEL LIGHTS control (1).**	If control (1) is loose or damaged, tighten or replace it as required.
2. **Check 42 panel lights (2).**	If any panel light (2) is loose or damaged, tighten or replace it as required.

FOLLOW-ON MAINTENANCE:
None



D145-4227-5PA

9-11.3 OVERHEAD PANEL LIGHTS OPERATIONAL CHECK 9-11.3

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
None

Materials:
None

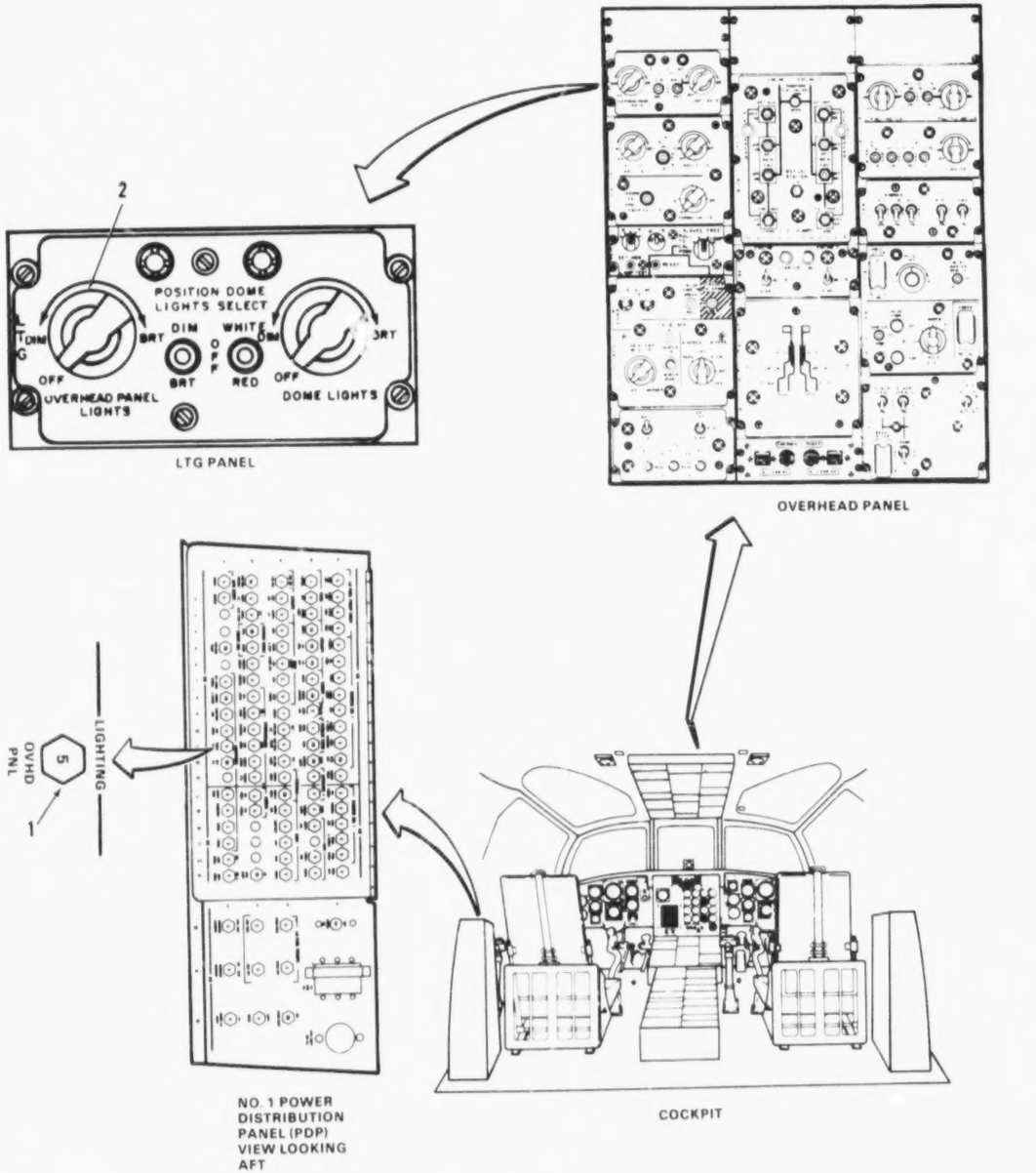
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Overhead Panel Lights Visual Check Performed (Task 9-11.2)

TASK	RESULT
1. **Check** that **LIGHTING OVHD PNL circuit breaker (1)** is closed.	If OVHD PNL circuit breaker (1) is open, close it. If it opens again, go to task 9-11.4.
2. **Turn OVERHEAD PANEL LIGHTS control (2) from OFF through DIM to BRT.**	All control panels in overhead panel shall light dim and increase in brightness as control (2) is turned to BRT. If any panel is not lit, go to task 9-11.5. If panel brightness does not increase as control is turned, replace OVERHEAD PANEL LIGHTS control.
3. **Turn OVERHEAD PANEL LIGHTS control (2) to OFF.**	All control panel lights in overhead panel shall go out. If not, replace OVERHEAD PANEL LIGHTS control.

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off



DI45-4228-SPA

END OF TASK

9-11.4 OVHD PNL CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

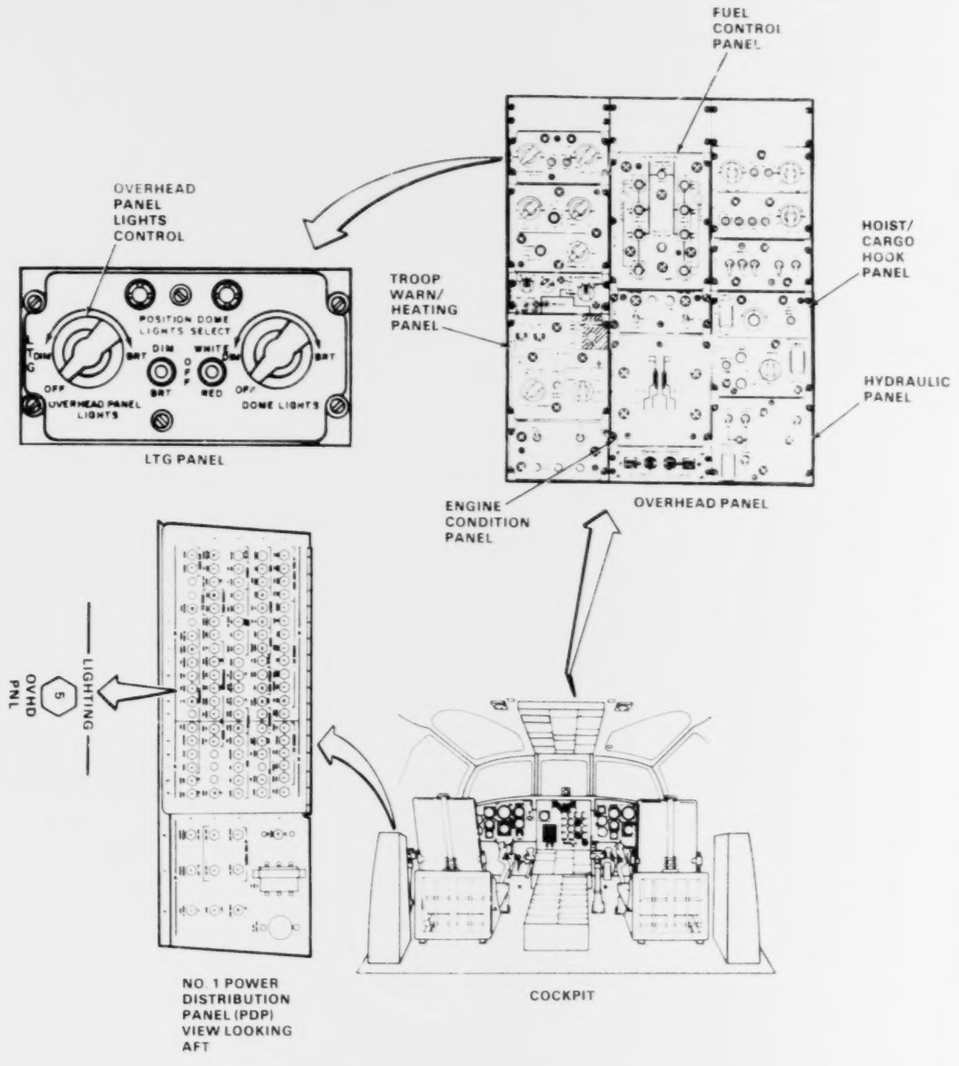
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



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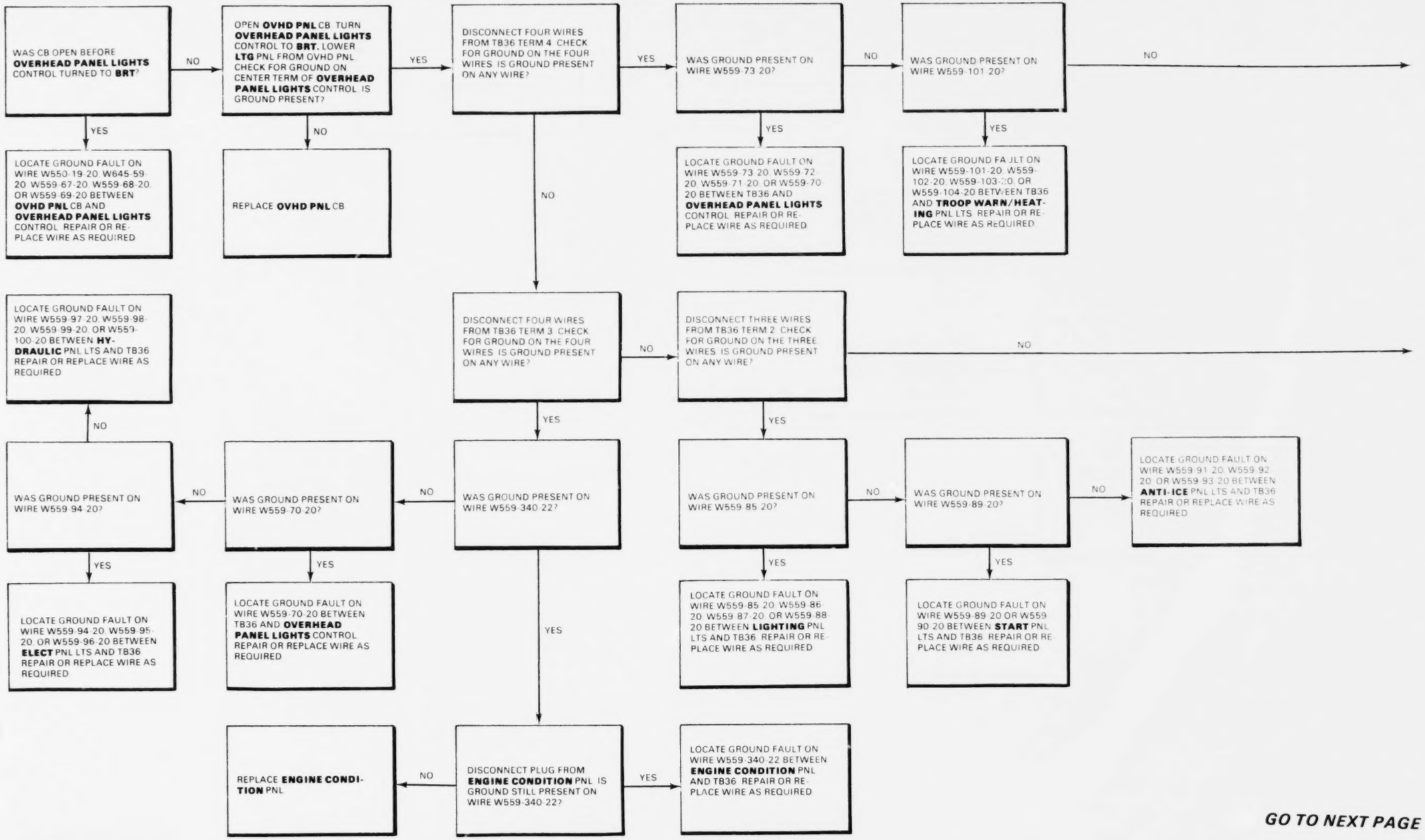
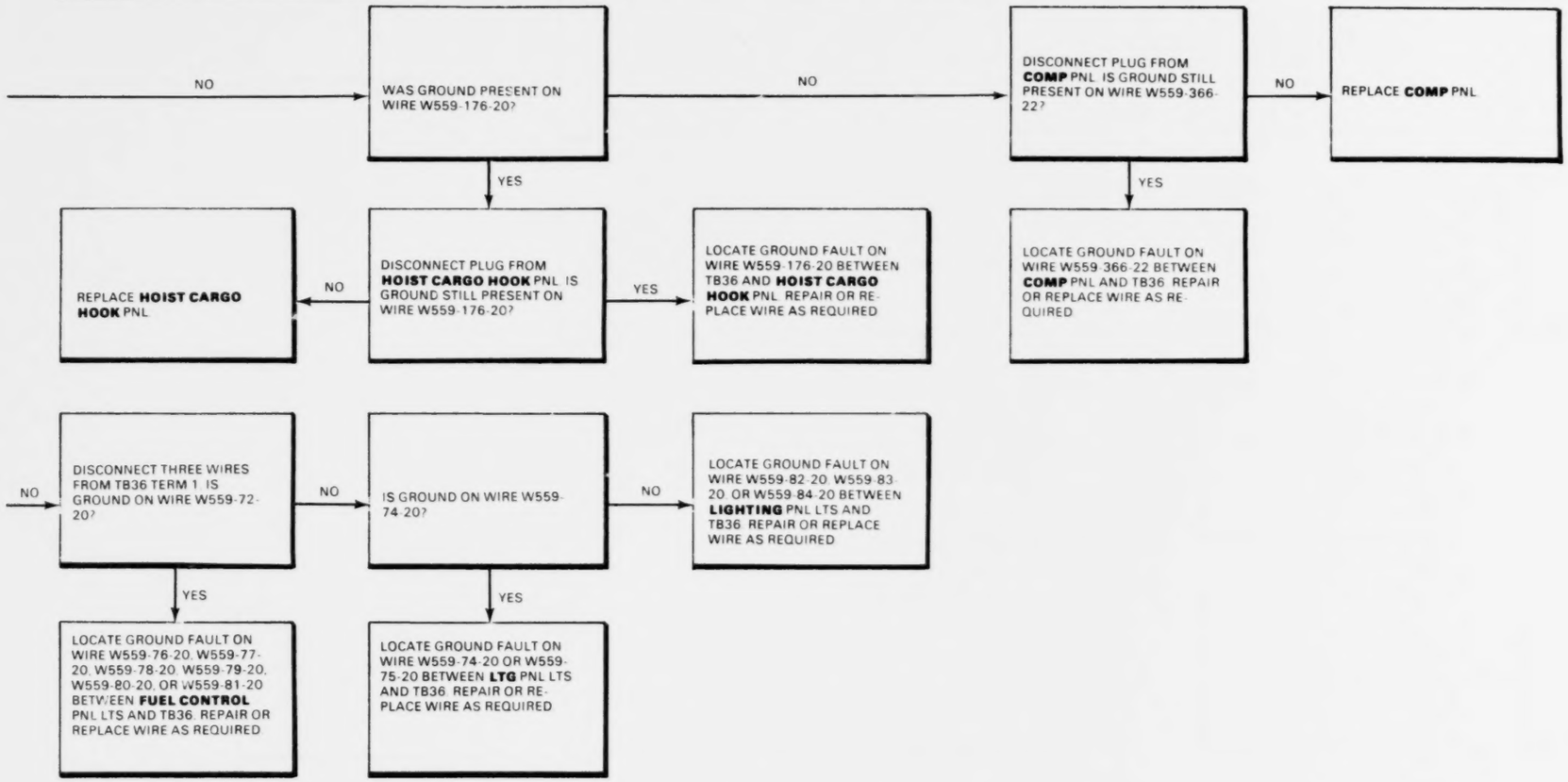
9-11.4 OVHD PNL CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)


WAS CB OPEN BEFORE OVERHEAD PANEL LIGHTS CONTROL TURNED TO BRT?
NO
YES
OPEN OVHD PNL CB. TURN OVERHEAD PANEL LIGHTS CONTROL TO BRT. LOWER LTG PNL FROM OVHD PNL. CHECK FOR GROUND ON CENTER TERM OF OVERHEAD PANEL LIGHTS CONTROL. IS GROUND PRESENT?
YES
NO
DISCONNECT FOUR WIRES FROM TB36 TERM 4. CHECK FOR GROUND ON THE FOUR WIRES. IS GROUND PRESENT ON ANY WIRE?
YES
NO
WAS GROUND PRESENT ON WIRE W559-73-20?
NO
YES
WAS GROUND PRESENT ON WIRE W559-101-20?
NO
YES
LOCATE GROUND FAULT ON WIRE W550-19-20, W645-59-20, W559-67-20, W559-68-20, OR W559-69-20 BETWEEN OVHD PNL CB AND OVERHEAD PANEL LIGHTS CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE OVHD PNL CB
LOCATE GROUND FAULT ON WIRE W559-73-20, W559-72-20, W559-71-20, OR W559-70-20 BETWEEN TB36 AND OVERHEAD PANEL LIGHTS CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W559-101-20, W559-102-20, W559-103-20, OR W559-104-20 BETWEEN TB36 AND TROOP WARN/HEATING PNL LTS. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W559-97-20, W559-98-20, W559-99-20, OR W559-100-20 BETWEEN HYDRAULIC PNL LTS AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED
DISCONNECT FOUR WIRES FROM TB36 TERM 3. CHECK FOR GROUND ON THE FOUR WIRES. IS GROUND PRESENT ON ANY WIRE?
NO
DISCONNECT THREE WIRES FROM TB36 TERM 2. CHECK FOR GROUND ON THE THREE WIRES. IS GROUND PRESENT ON ANY WIRE?
NO
YES
YES
WAS GROUND PRESENT ON WIRE W559-94-20?
NO
WAS GROUND PRESENT ON WIRE W559-70-20?
NO
WAS GROUND PRESENT ON WIRE W559-340-22?
WAS GROUND PRESENT ON WIRE W559-85-20?
NO
WAS GROUND PRESENT ON WIRE W559-89-20?
NO
LOCATE GROUND FAULT ON WIRE W559-91-20, W559-92-20, OR W559-93-20 BETWEEN ANTI-ICE PNL LTS AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED
YES
YES
YES
YES
YES
LOCATE GROUND FAULT ON WIRE W559-94-20, W559-95-20, OR W559-96-20 BETWEEN ELECT PNL LTS AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W559-70-20 BETWEEN TB36 AND OVERHEAD PANEL LIGHTS CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W559-85-20, W559-86-20, W559-87-20, OR W559-88-20 BETWEEN LIGHTING PNL LTS AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W559-89-20 OR W559-90-20 BETWEEN START PNL LTS AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE ENGINE CONDITION PNL
NO
DISCONNECT PLUG FROM ENGINE CONDITION PNL. IS GROUND STILL PRESENT ON WIRE W559-340-22?
YES
LOCATE GROUND FAULT ON WIRE W559-340-22 BETWEEN ENGINE CONDITION PNL AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED

GO TO NEXT PAGE

9-11.4 OVHD PNL CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)


NO
WAS GROUND PRESENT ON WIRE W559-176-20?
NO
DISCONNECT PLUG FROM **COMP** PNL. IS GROUND STILL PRESENT ON WIRE W559-366-22?
NO
REPLACE **COMP** PNL
YES
YES
REPLACE **HOIST CARGO HOOK** PNL
NO
DISCONNECT PLUG FROM **HOIST CARGO HOOK** PNL. IS GROUND STILL PRESENT ON WIRE W559-176-20?
YES
LOCATE GROUND FAULT ON WIRE W559-176-20 BETWEEN TB36 AND **HOIST CARGO HOOK** PNL. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W559-366-22 BETWEEN **COMP** PNL AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED
NO
DISCONNECT THREE WIRES FROM TB36 TERM 1. IS GROUND ON WIRE W559-72-20?
NO
IS GROUND ON WIRE W559-74-20?
NO
LOCATE GROUND FAULT ON WIRE W559-82-20, W559-83-20, OR W559-84-20 BETWEEN **LIGHTING** PNL LTS AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED
YES
YES
LOCATE GROUND FAULT ON WIRE W559-76-20, W559-77-20, W559-78-20, W559-79-20, W559-80-20, OR W559-81-20 BETWEEN **FUEL CONTROL** PNL LTS AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W559-74-20 OR W559-75-20 BETWEEN **LTG** PNL LTS AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED

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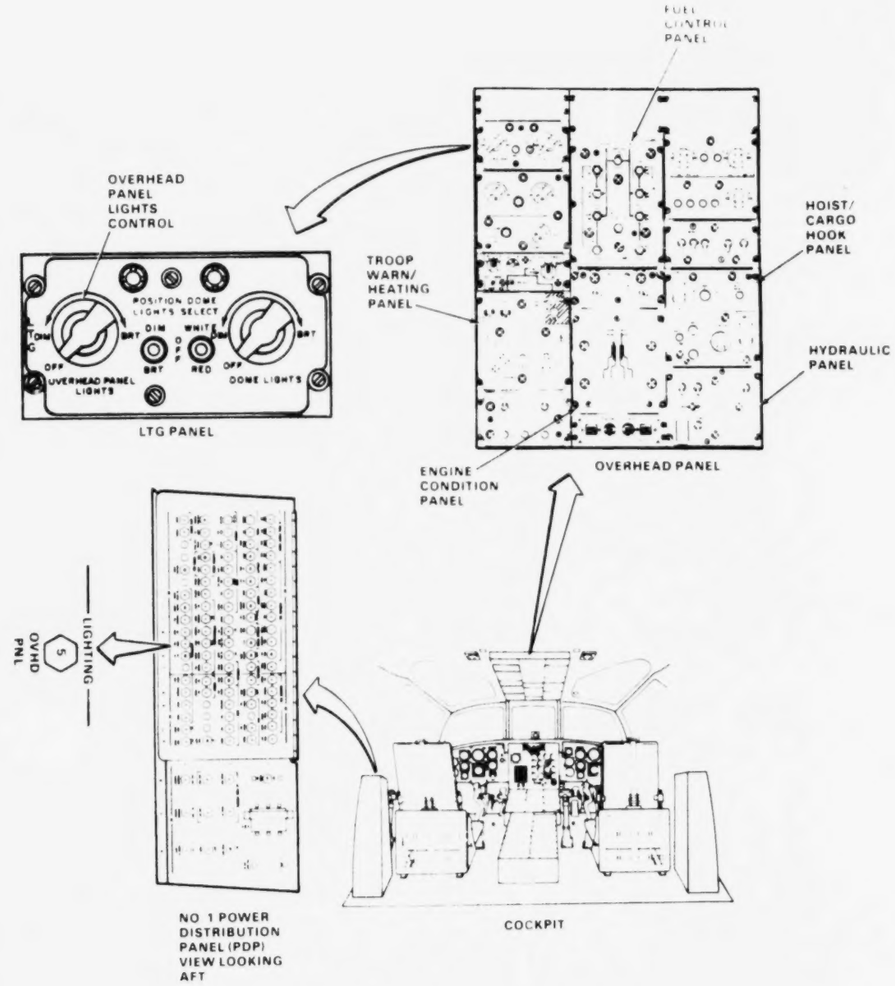
9-11.4 OVHD PNL CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)



45X54

DI45-11836-SPA

END OF TASK

9-11.5 OVERHEAD PANEL LIGHT OR LIGHTS NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:

Without 17

Tools:

Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:

None

Personnel Required:

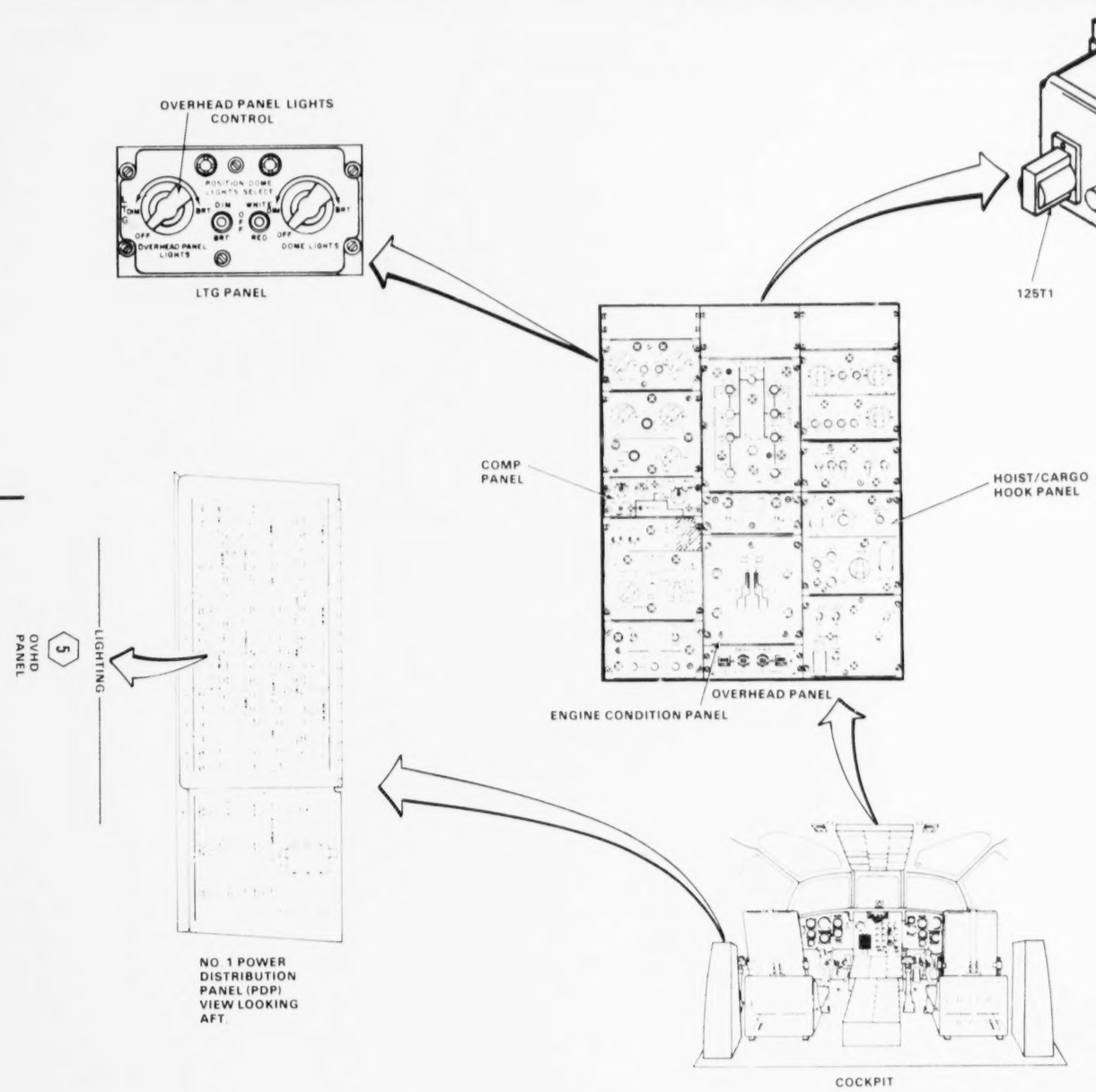
Aircraft Electrician

References:

TM 55-1520-240-23

Equipment Condition:

TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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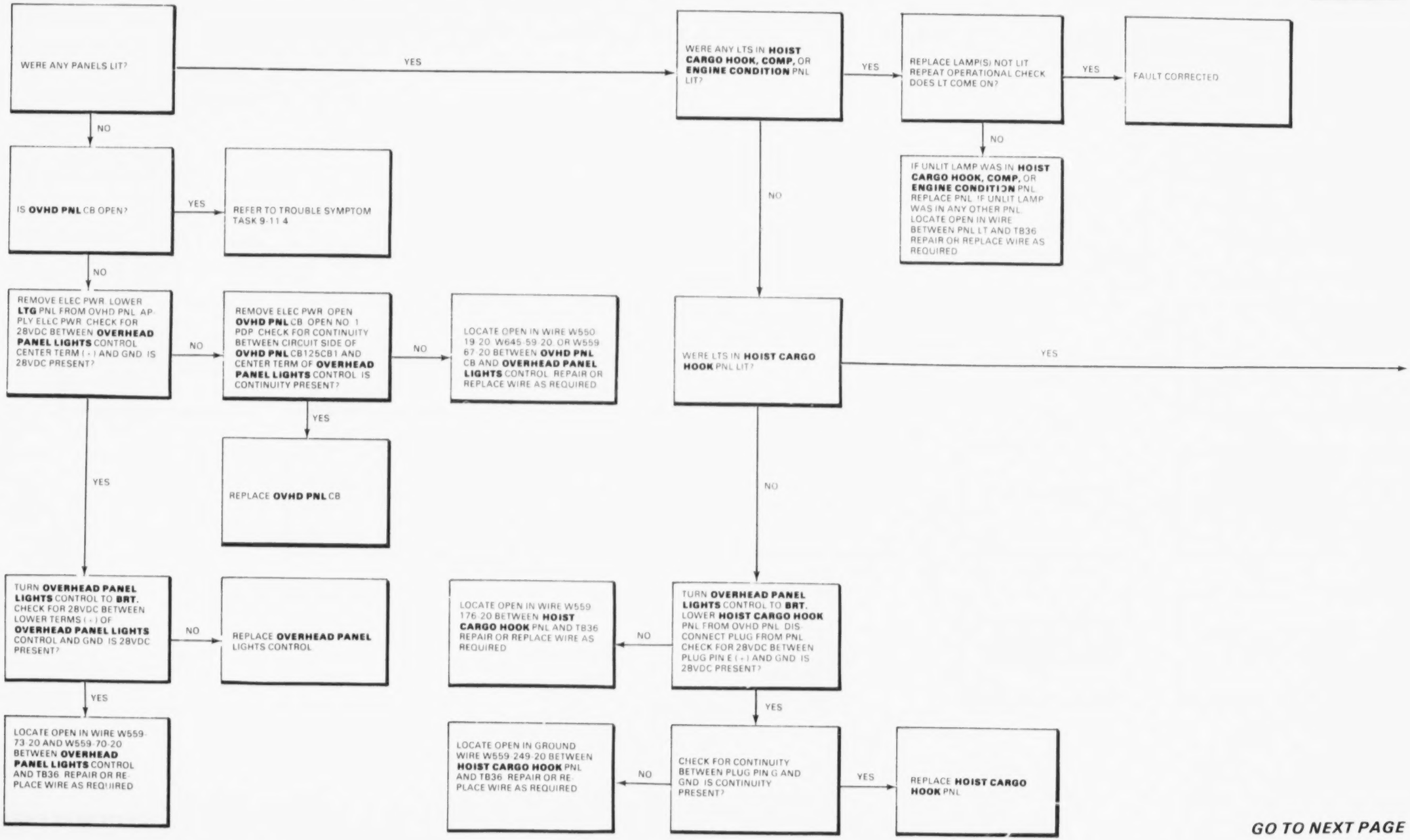
9-11-5 OVERHEAD PANEL LIGHT OR LIGHTS NOT LIT (Continued)


WERE ANY PANELS LIT?
YES
NO
WERE ANY LTS IN **HOIST CARGO HOOK, COMP,** OR **ENGINE CONDITION** PNL LIT?
YES
REPLACE LAMP(S) NOT LIT REPEAT OPERATIONAL CHECK DOES LT COME ON?
YES
FAULT CORRECTED
NO
IF UNLIT LAMP WAS IN **HOIST CARGO HOOK, COMP,** OR **ENGINE CONDITION** PNL REPLACE PNL IF UNLIT LAMP WAS IN ANY OTHER PNL LOCATE OPEN IN WIRE BETWEEN PNL LT AND TB36 REPAIR OR REPLACE WIRE AS REQUIRED
IS **OVHD PNL** CB OPEN?
YES
REFER TO TROUBLE SYMPTOM TASK 9-11 4
NO
REMOVE ELEC PWR LOWER **LTG** PNL FROM OVHD PNL AP PLY ELEC PWR CHECK FOR 28VDC BETWEEN **OVERHEAD PANEL LIGHTS** CONTROL CENTER TERM (-) AND GND IS 28VDC PRESENT?
NO
REMOVE ELEC PWR OPEN **OVHD PNL** CB OPEN NO 1 PDP CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF **OVHD PNL** CB125CB1 AND CENTER TERM OF **OVERHEAD PANEL LIGHTS** CONTROL IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W550 19 20 W645 59 20 OR W559 67 20 BETWEEN **OVHD PNL** CB AND **OVERHEAD PANEL LIGHTS** CONTROL REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE **OVHD PNL** CB
YES
WERE LTS IN **HOIST CARGO HOOK** PNL LIT?
YES
NO
TURN **OVERHEAD PANEL LIGHTS** CONTROL TO **BRT.** CHECK FOR 28VDC BETWEEN LOWER TERMS (+) OF **OVERHEAD PANEL LIGHTS** CONTROL AND GND IS 28VDC PRESENT?
NO
REPLACE **OVERHEAD PANEL** LIGHTS CONTROL
YES
LOCATE OPEN IN WIRE W559 73 20 AND W559 70 20 BETWEEN **OVERHEAD PANEL LIGHTS** CONTROL AND TB36 REPAIR OR RE PLACE WIRE AS REQUIRED
LOCATE OPEN IN WIRE W559 176 20 BETWEEN **HOIST CARGO HOOK** PNL AND TB36 REPAIR OR REPLACE WIRE AS REQUIRED
NO
TURN **OVERHEAD PANEL LIGHTS** CONTROL TO **BRT.** LOWER **HOIST CARGO HOOK** PNL FROM OVHD PNL DIS CONNECT PLUG FROM PNL CHECK FOR 28VDC BETWEEN PLUG PIN E (+) AND GND IS 28VDC PRESENT?
YES
LOCATE OPEN IN GROUND WIRE W559 249 20 BETWEEN **HOIST CARGO HOOK** PNL AND TB36 REPAIR OR RE PLACE WIRE AS REQUIRED
NO
CHECK FOR CONTINUITY BETWEEN PLUG PIN G AND GND IS CONTINUITY PRESENT?
YES
REPLACE **HOIST CARGO HOOK** PNL

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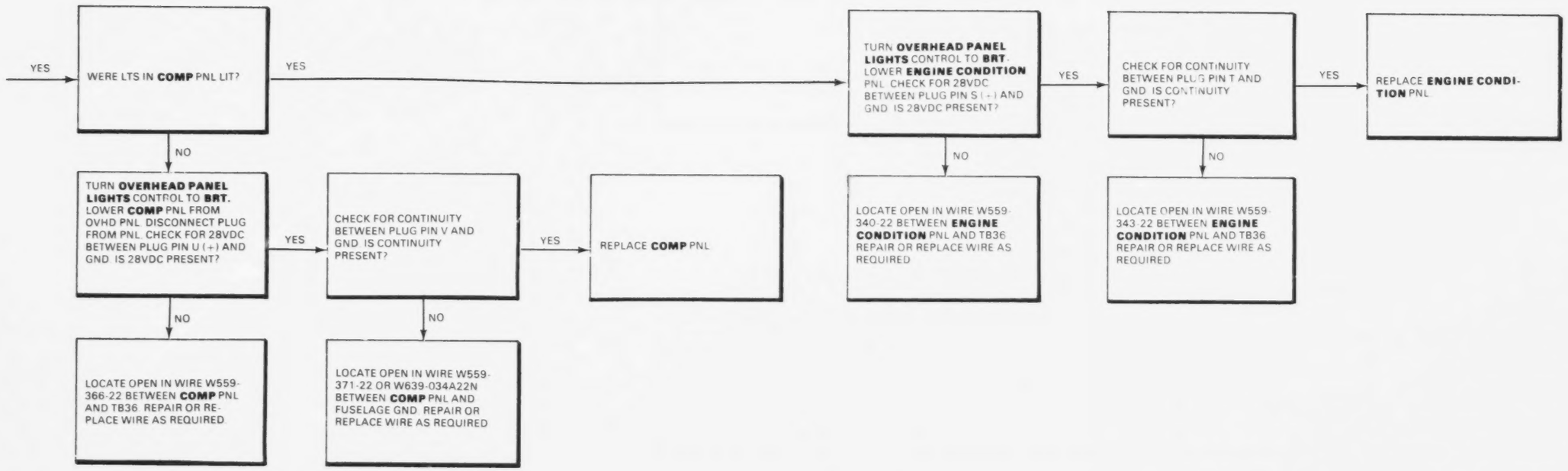
YES
WERE LTS IN **COMP** PNL LIT?
YES
TURN **OVERHEAD PANEL LIGHTS** CONTROL TO **BRT**. LOWER **ENGINE CONDITION** PNL. CHECK FOR 28VDC BETWEEN PLUG PIN S (+) AND GND. IS 28VDC PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG PIN T AND GND. IS CONTINUITY PRESENT?
YES
REPLACE **ENGINE CONDITION** PNL.
NO
LOCATE OPEN IN WIRE W559-340-22 BETWEEN **ENGINE CONDITION** PNL AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W559-343-22 BETWEEN **ENGINE CONDITION** PNL AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
TURN **OVERHEAD PANEL LIGHTS** CONTROL TO **BRT**. LOWER **COMP** PNL FROM OVHD PNL. DISCONNECT PLUG FROM PNL. CHECK FOR 28VDC BETWEEN PLUG PIN U (+) AND GND. IS 28VDC PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG PIN V AND GND. IS CONTINUITY PRESENT?
YES
REPLACE **COMP** PNL.
NO
LOCATE OPEN IN WIRE W559-366-22 BETWEEN **COMP** PNL AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W559-371-22 OR W639-034A22N BETWEEN **COMP** PNL AND FUSELAGE GND. REPAIR OR REPLACE WIRE AS REQUIRED.

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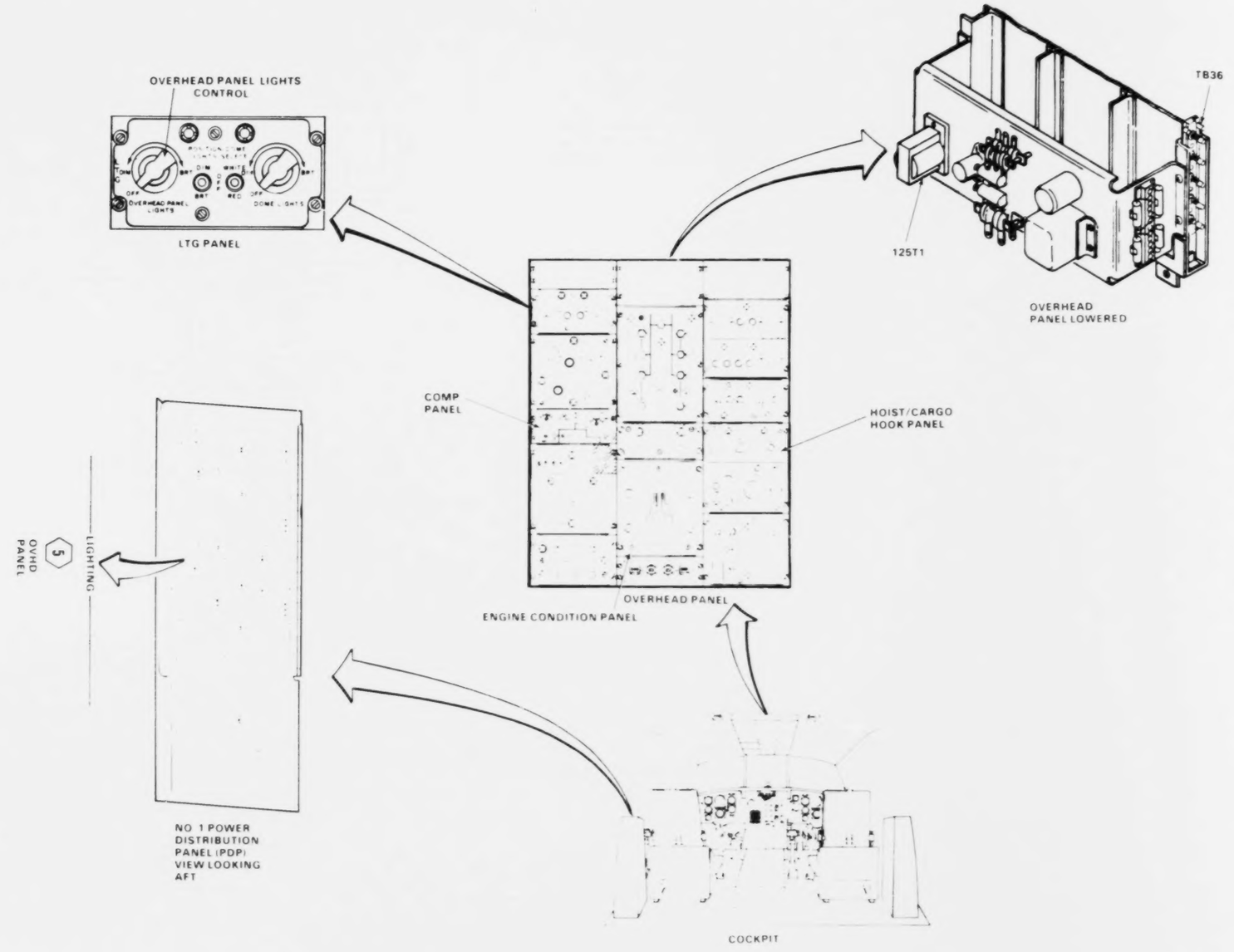
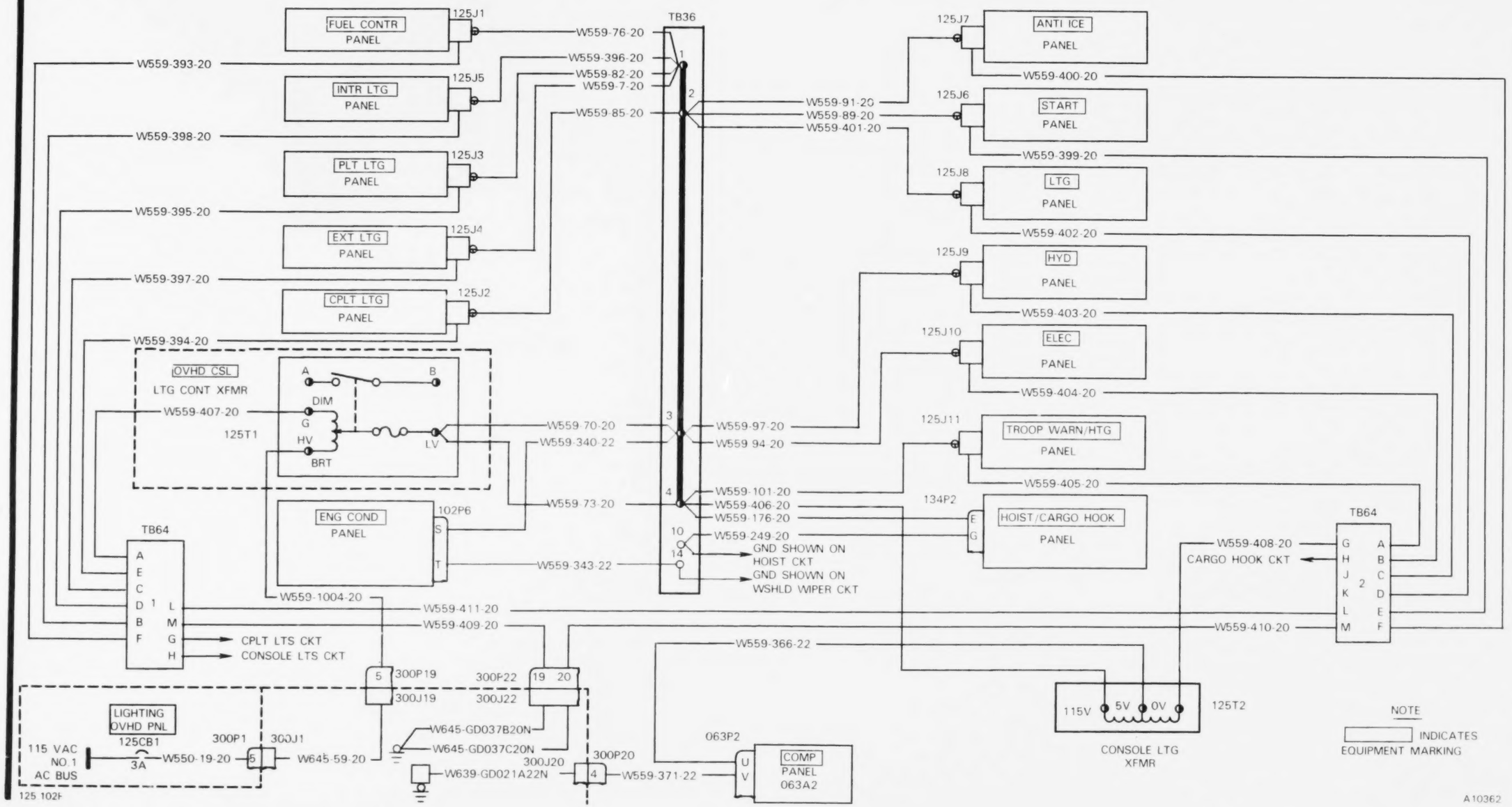
9-11.5 OVERHEAD PANEL LIGHT OR LIGHTS NOT LIT (Continued)



END OF TASK

9-11.6 OVERHEAD PANEL LIGHTS WIRING DIAGRAM (WITH 17)



9-11.7 OVERHEAD PANEL LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

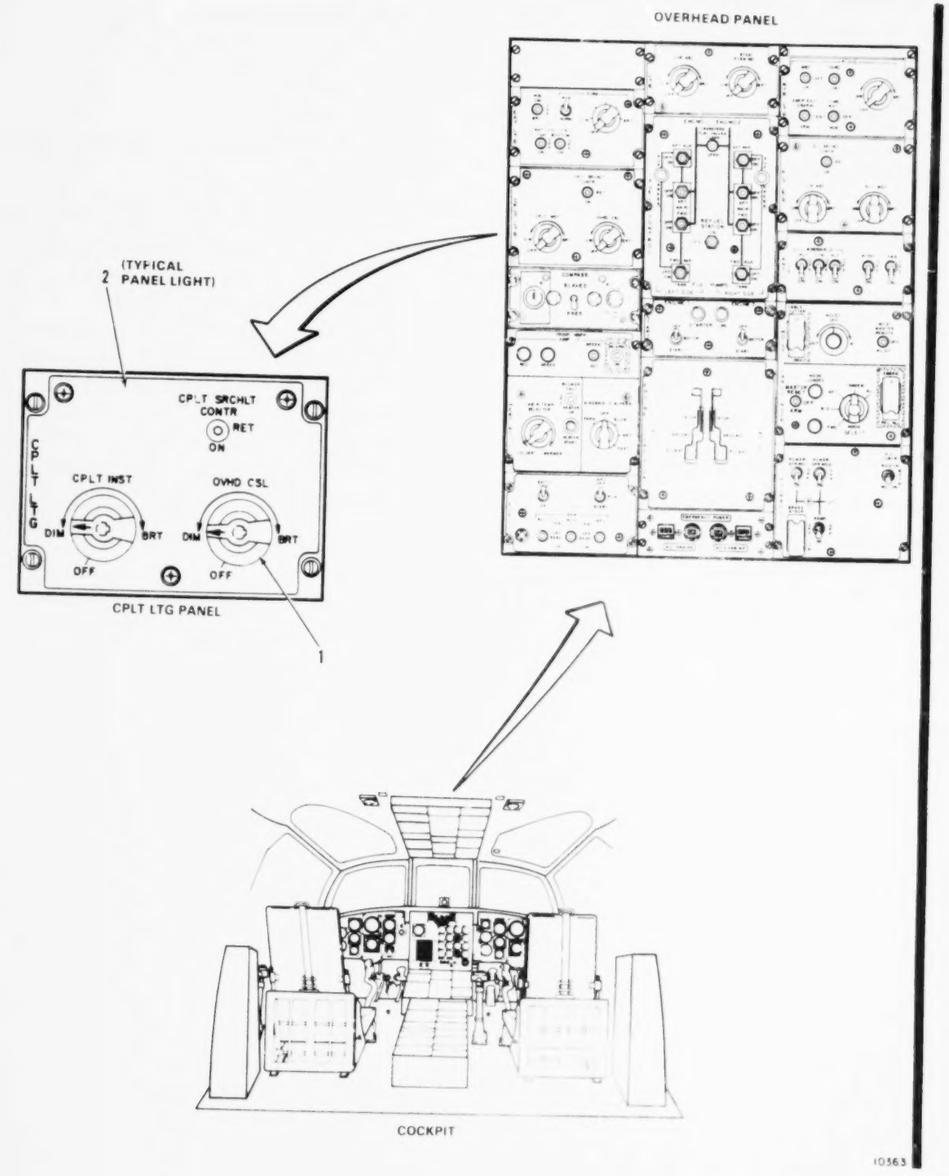
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check OVHD CSL lights control (1).**	If control (1) is loose or damaged, tighten or replace it as required.
2. **Check 15 lightplate panels (2).**	If any lightplate panel (2) is loose or damaged, tighten or replace it as required.

FOLLOW-ON MAINTENANCE:
None



9-11.8 OVERHEAD PANEL LIGHTS OPERATIONAL CHECK 9-11.8

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
None

Materials:
None

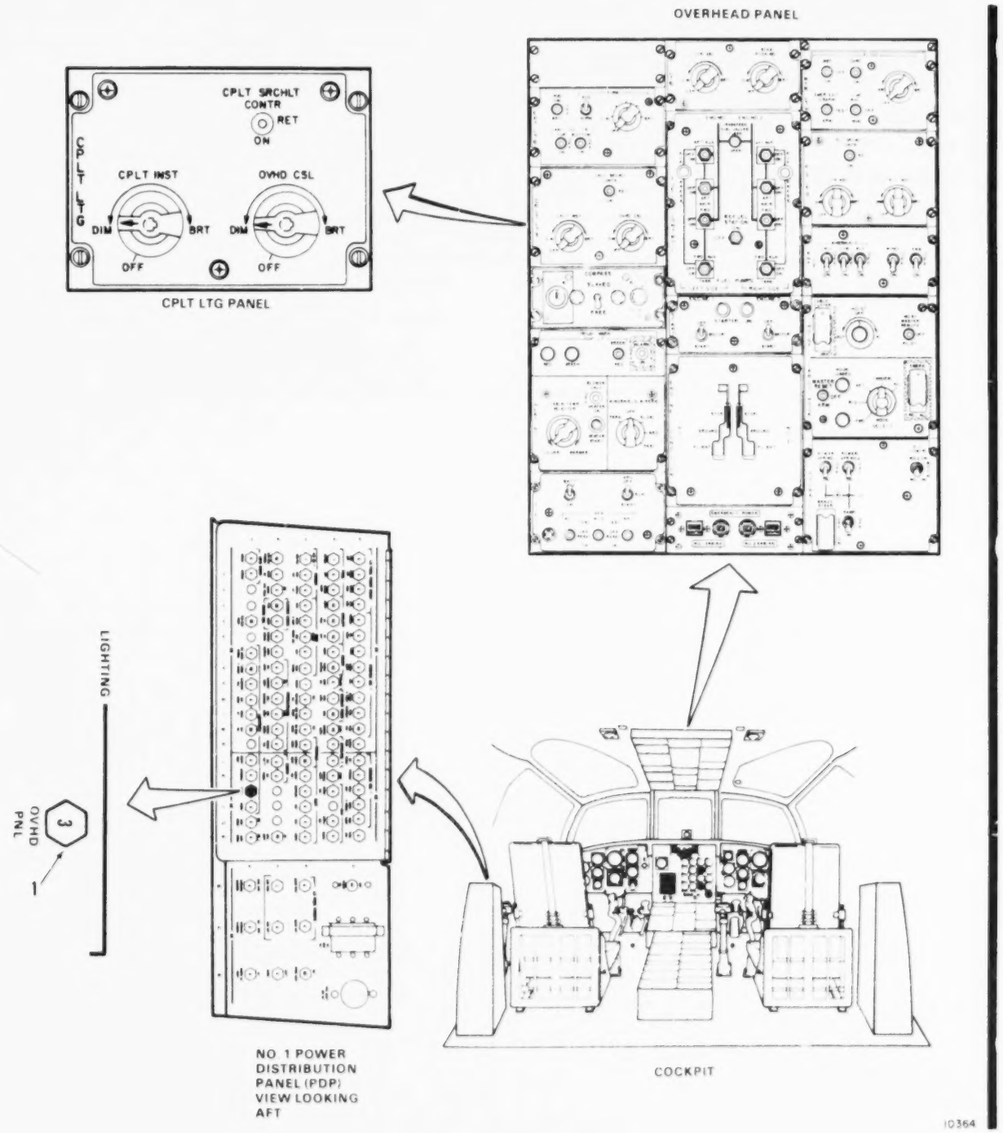
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Overhead Panel Lights Visual Check Performed (Task 9-11.7)

TASK	RESULT
1. **Check** that **LIGHTING OVHD PNL circuit breaker (1)** is closed.	If OVHD PNL circuit breaker (1) is open, close it. If it opens again, go to task 9-11.9.
2. **Turn OVHD CSL lights control (2) from OFF through DIM to BRT.**	All control panels in overhead panel shall light dim and increase in brightness as control (2) is turned to BRT. If any panel is not lit, go to task 9-11.10. If panel brightness does not increase as control is turned, replace OVHD CSL lights control.
3. **Turn OVHD CSL lights control (2) to OFF.**	All control panel lights in overhead panel shall go out. If not, replace OVHD CSL lights control.

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off



END OF TASK

9-11.9 OVHD PNL CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

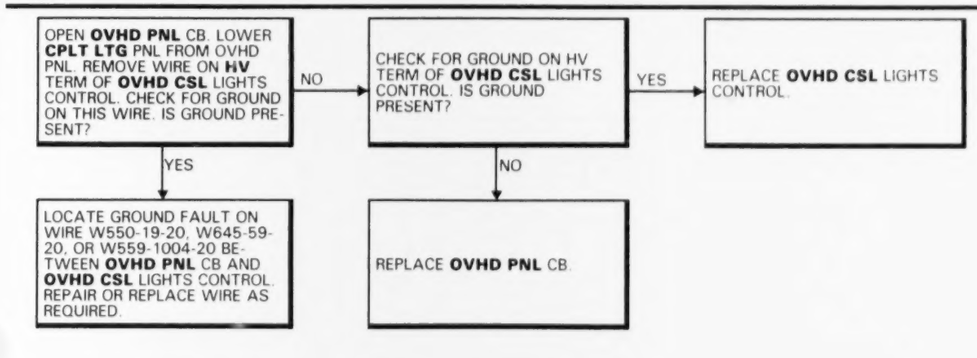
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

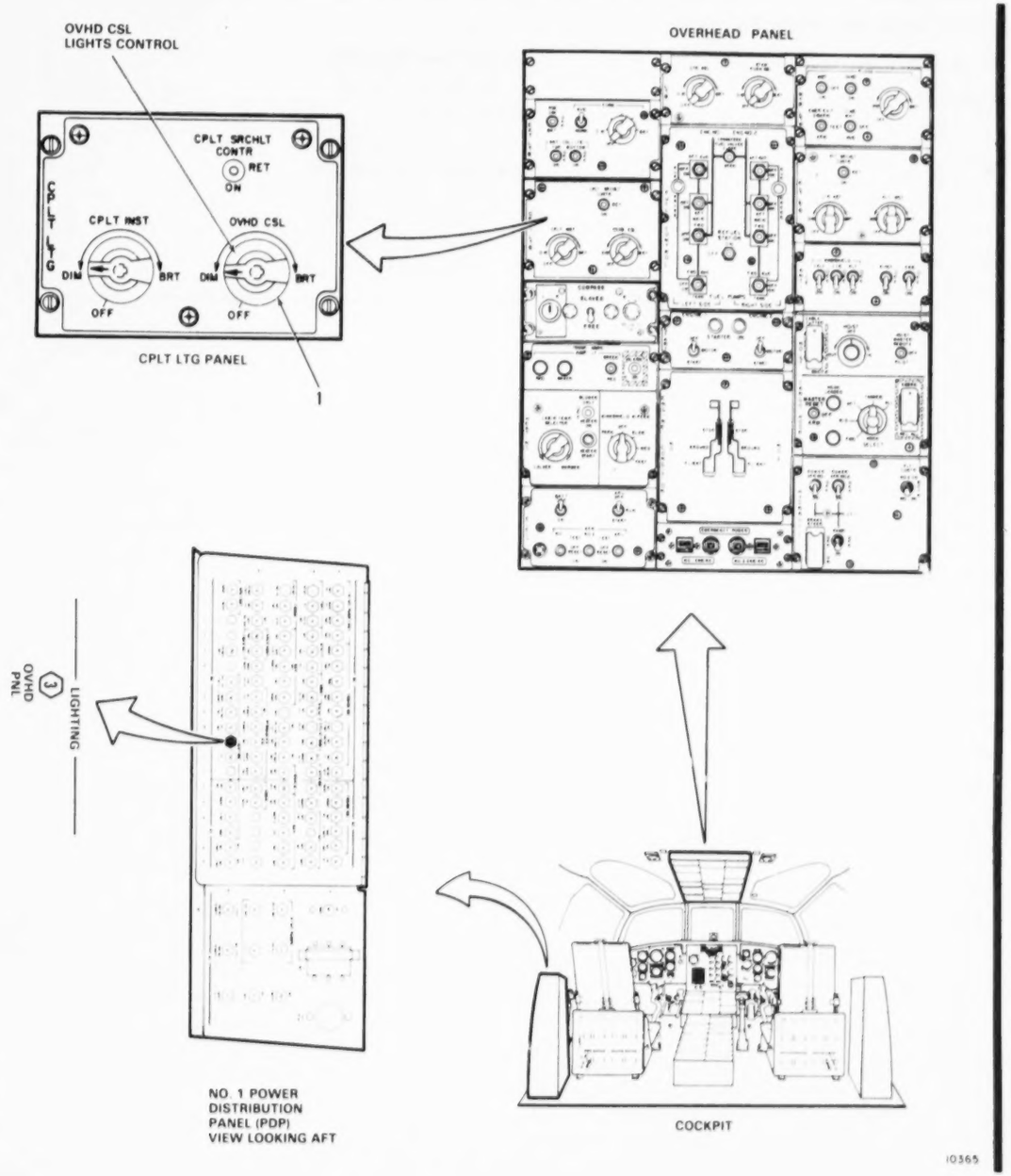
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off


OPEN **OVHD PNL** CB. LOWER **CPLT LTG** PNL FROM OVHD PNL. REMOVE WIRE ON **HV** TERM OF **OVHD CSL** LIGHTS CONTROL. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
CHECK FOR GROUND ON HV TERM OF **OVHD CSL** LIGHTS CONTROL. IS GROUND PRESENT?
YES
REPLACE **OVHD CSL** LIGHTS CONTROL.
YES
LOCATE GROUND FAULT ON WIRE W550-19-20, W645-59-20, OR W559-1004-20 BETWEEN **OVHD PNL** CB AND **OVHD CSL** LIGHTS CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE **OVHD PNL** CB.



END OF TASK

9-11.10 OVERHEAD PANEL LIGHT OR LIGHTS NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

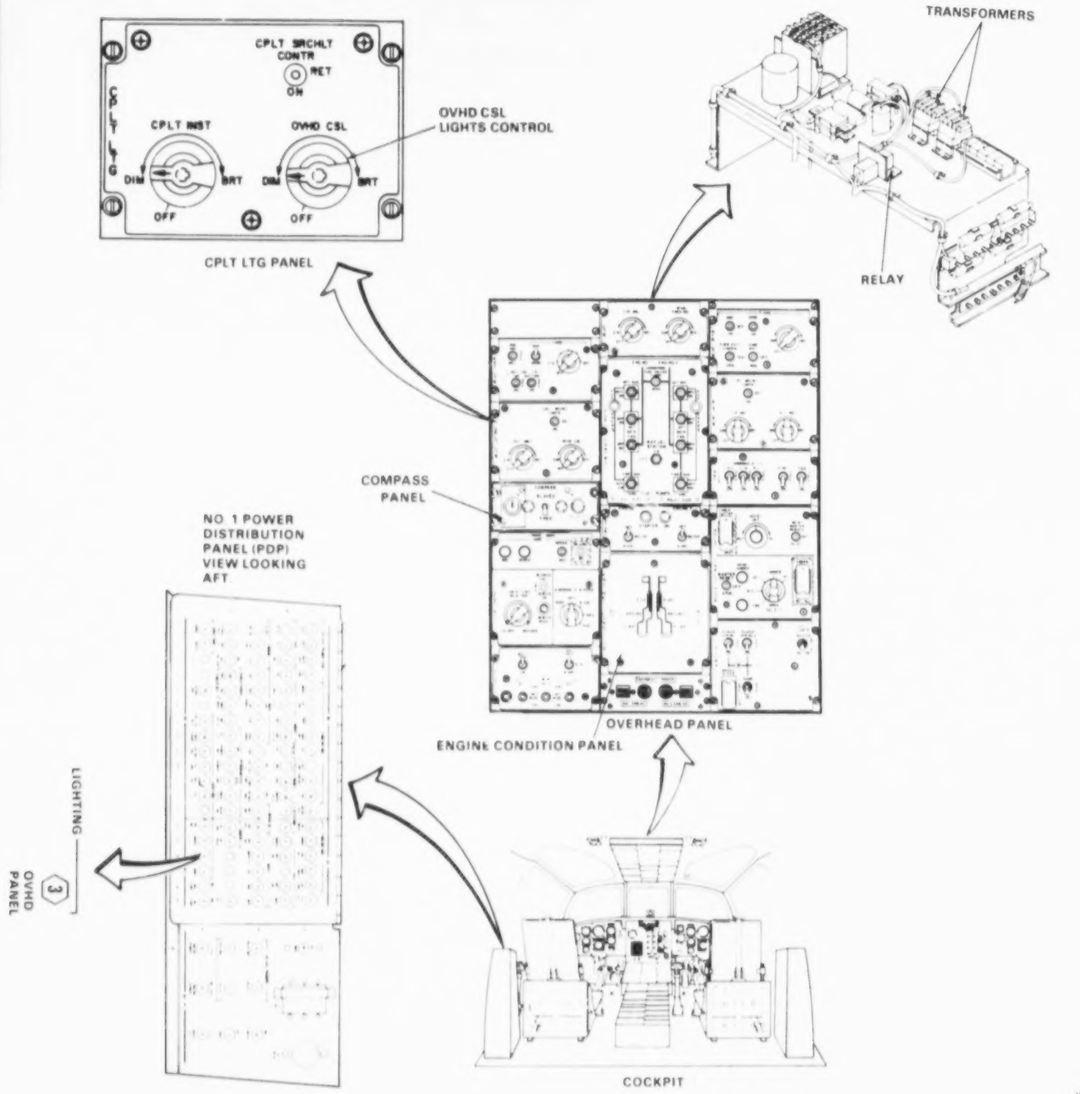
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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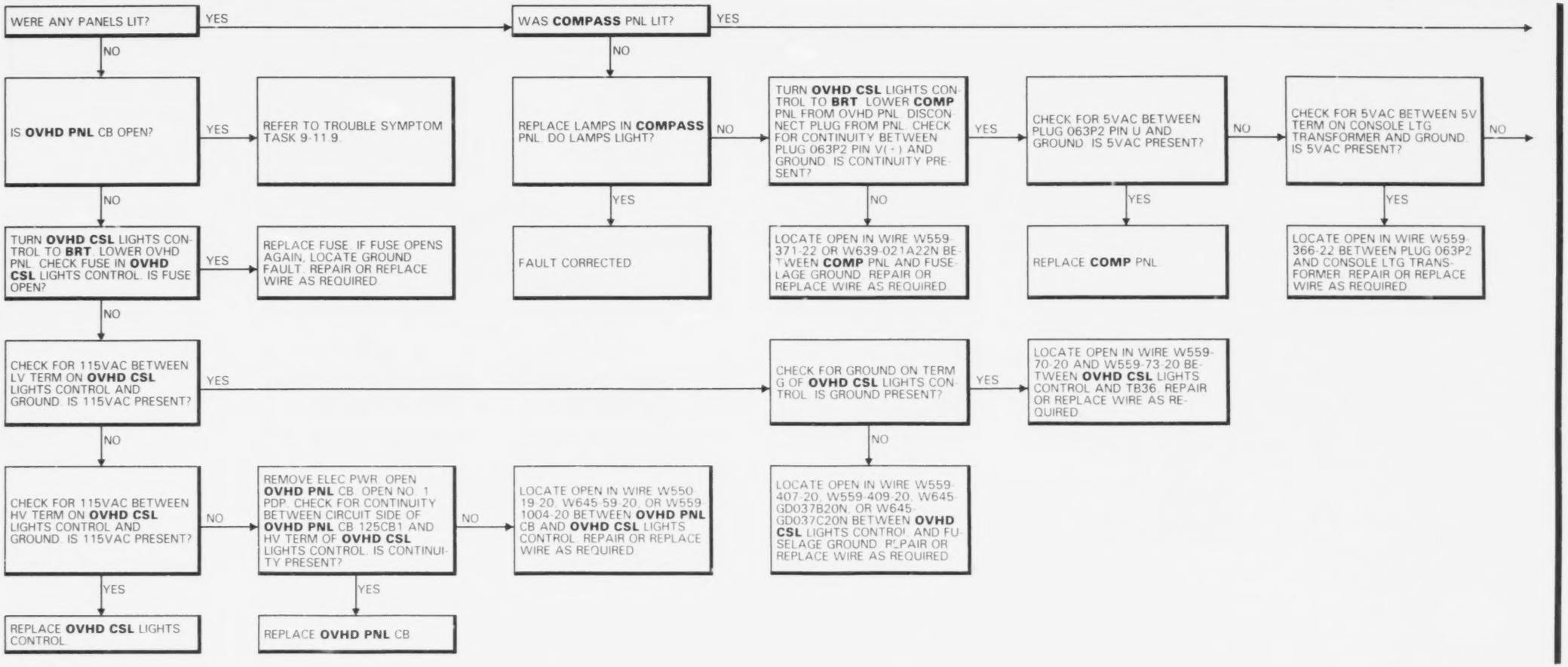
WERE ANY PANELS LIT?
YES
WAS COMPASS PNL LIT?
YES
NO
NO
IS OVHD PNL CB OPEN?
YES
REFER TO TROUBLE SYMPTOM TASK 9-11.9.
REPLACE LAMPS IN COMPASS PNL. DO LAMPS LIGHT?
NO
TURN OVHD CSL LIGHTS CONTROL TO BRT. LOWER COMP PNL FROM OVHD PNL. DISCONNECT PLUG FROM PNL. CHECK FOR CONTINUITY BETWEEN PLUG 063P2 PIN V(-) AND GROUND. IS CONTINUITY PRESENT?
YES
CHECK FOR 5VAC BETWEEN PLUG 063P2 PIN U AND GROUND. IS 5VAC PRESENT?
NO
CHECK FOR 5VAC BETWEEN 5V TERM ON CONSOLE LTG TRANSFORMER AND GROUND. IS 5VAC PRESENT?
NO
NO
YES
YES
YES
TURN OVHD CSL LIGHTS CONTROL TO BRT. LOWER OVHD PNL. CHECK FUSE IN OVHD CSL LIGHTS CONTROL. IS FUSE OPEN?
YES
REPLACE FUSE. IF FUSE OPENS AGAIN, LOCATE GROUND FAULT. REPAIR OR REPLACE WIRE AS REQUIRED.
FAULT CORRECTED.
LOCATE OPEN IN WIRE W559-371-22 OR W639-021A22N BETWEEN COMP PNL AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE COMP PNL.
LOCATE OPEN IN WIRE W559-366-22 BETWEEN PLUG 063P2 AND CONSOLE LTG TRANSFORMER. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
YES
YES
YES
CHECK FOR 115VAC BETWEEN LV TERM ON OVHD CSL LIGHTS CONTROL AND GROUND. IS 115VAC PRESENT?
YES
CHECK FOR GROUND ON TERM G OF OVHD CSL LIGHTS CONTROL. IS GROUND PRESENT?
YES
LOCATE OPEN IN WIRE W559-70-20 AND W559-73-20 BETWEEN OVHD CSL LIGHTS CONTROL AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
NO
CHECK FOR 115VAC BETWEEN HV TERM ON OVHD CSL LIGHTS CONTROL AND GROUND. IS 115VAC PRESENT?
NO
REMOVE ELEC PWR. OPEN OVHD PNL CB. OPEN NO. 1 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF OVHD PNL CB 125CB1 AND HV TERM OF OVHD CSL LIGHTS CONTROL. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W550-19-20, W645-59-20, OR W559-1004-20 BETWEEN OVHD PNL CB AND OVHD CSL LIGHTS CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE OPEN IN WIRE W559-407-20, W559-409-20, W645-GD037B20N, OR W645-GD037C20N BETWEEN OVHD CSL LIGHTS CONTROL AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
YES
REPLACE OVHD CSL LIGHTS CONTROL.
REPLACE OVHD PNL CB.

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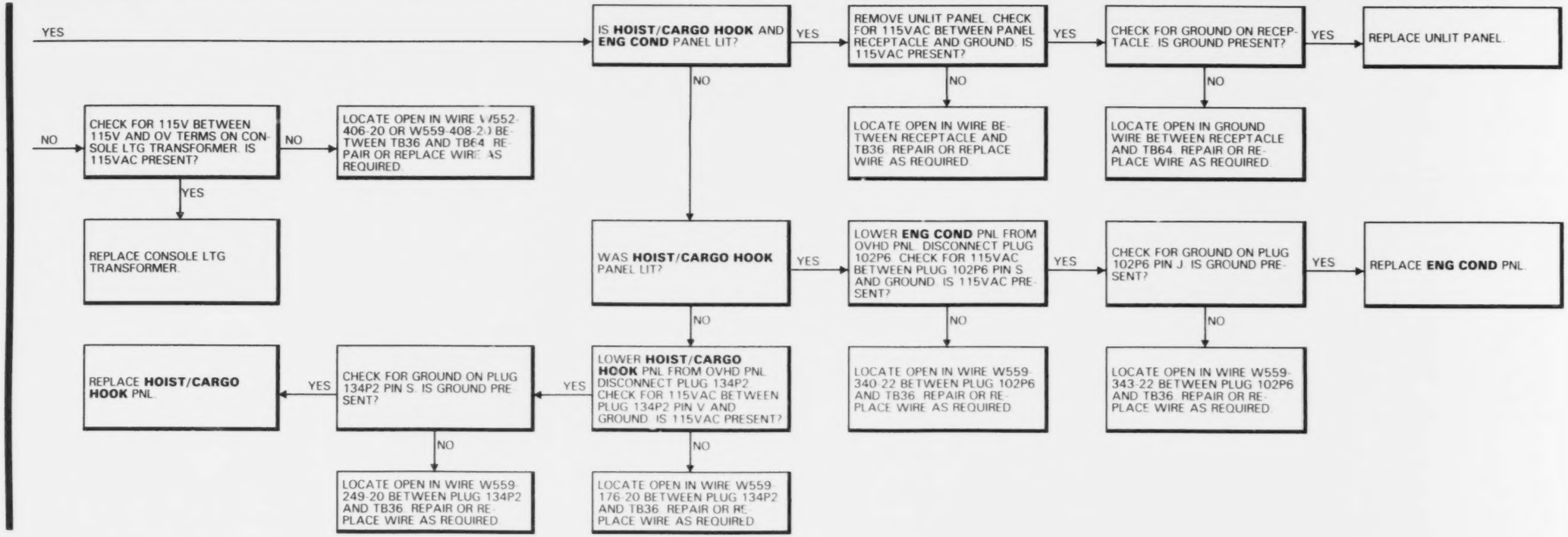
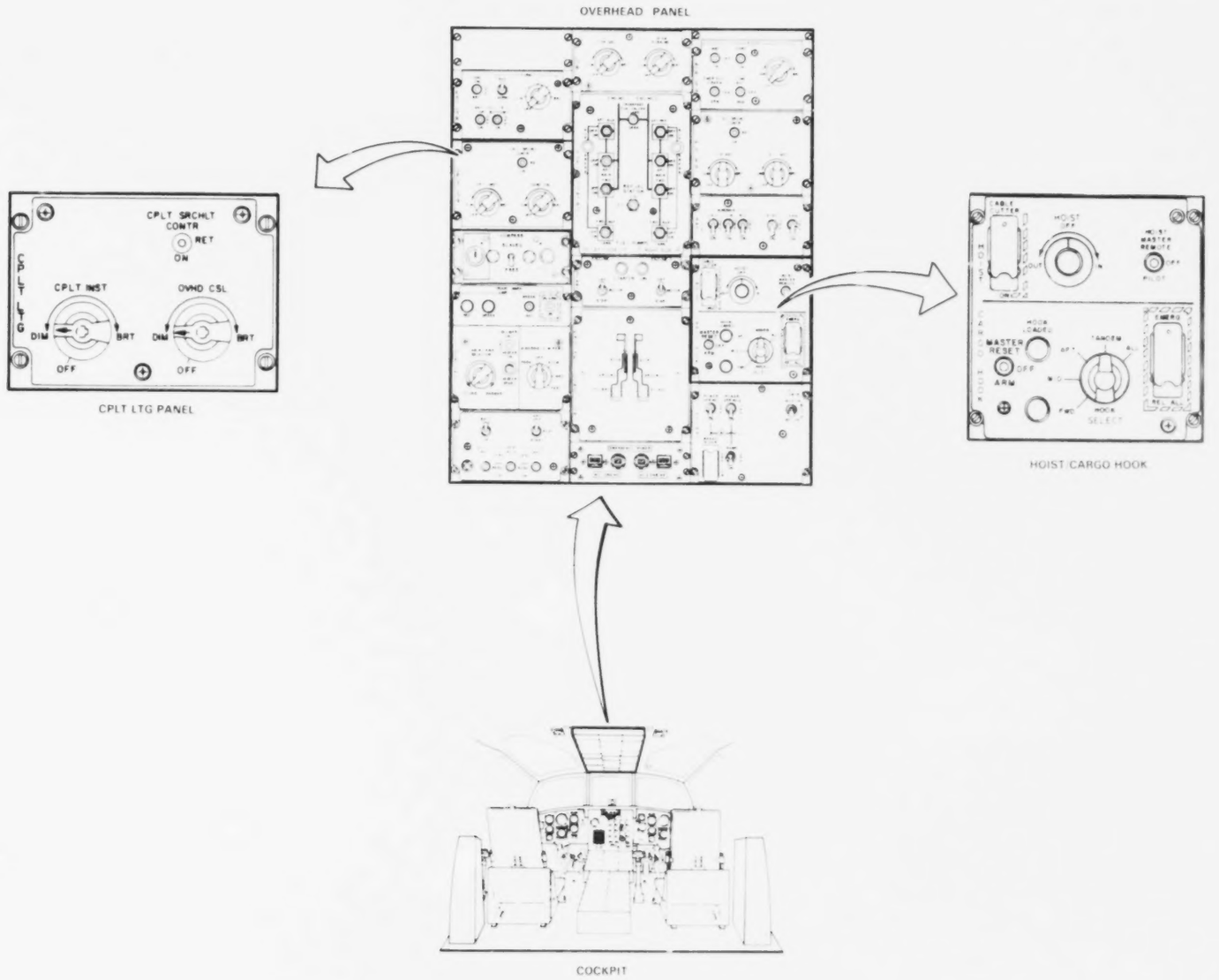
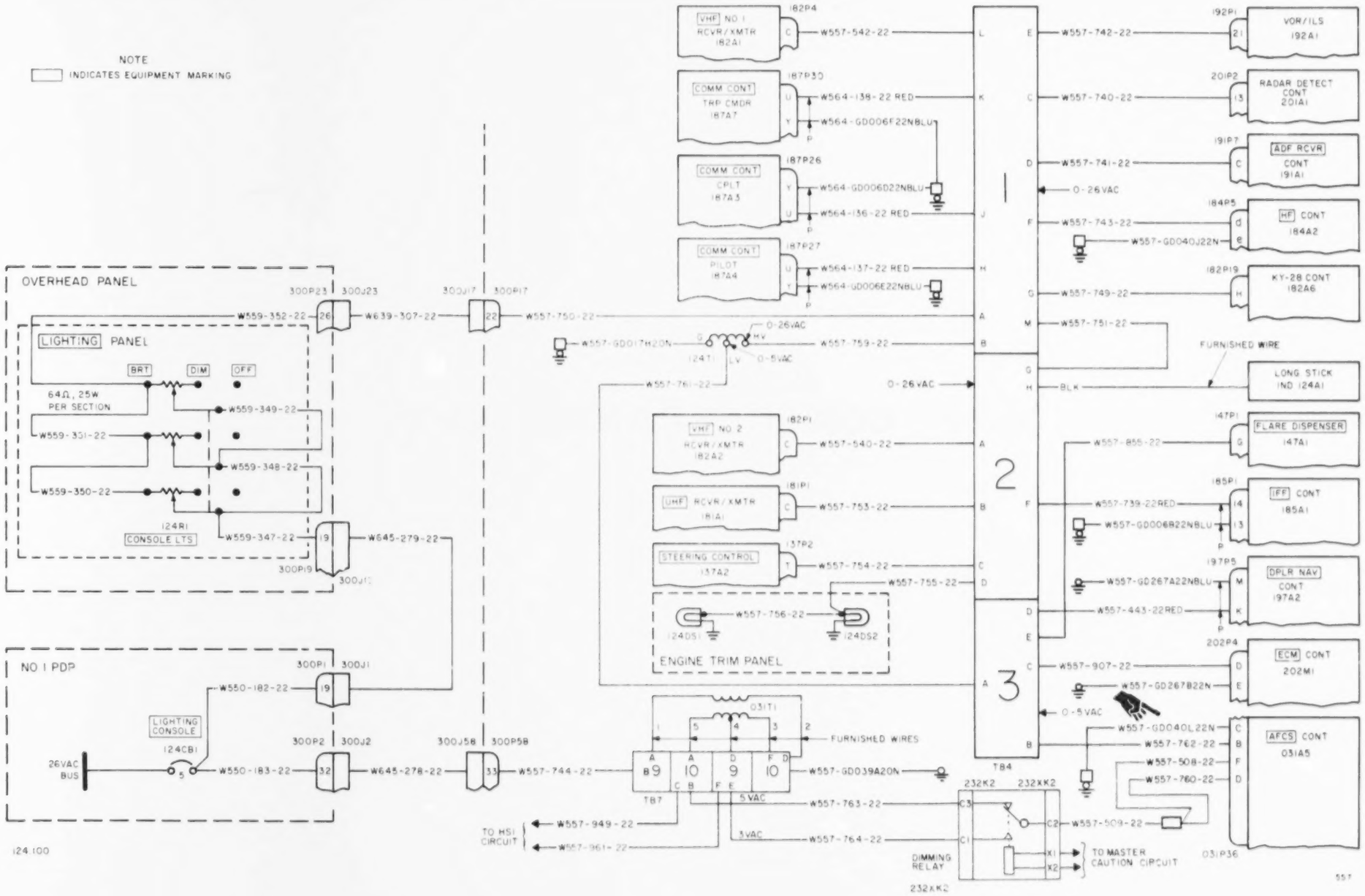
9-11.10 OVERHEAD PANEL LIGHT OR LIGHTS NOT LIT (Continued)


YES
IS HOIST/CARGO HOOK AND ENG COND PANEL LIT?
YES
REMOVE UNLIT PANEL. CHECK FOR 115VAC BETWEEN PANEL RECEPTACLE AND GROUND. IS 115VAC PRESENT?
YES
CHECK FOR GROUND ON RECEPTACLE. IS GROUND PRESENT?
YES
REPLACE UNLIT PANEL.
NO
LOCATE OPEN IN WIRE BETWEEN RECEPTACLE AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN GROUND WIRE BETWEEN RECEPTACLE AND TB64. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR 115V BETWEEN 115V AND OV TERMS ON CONSOLE LTG TRANSFORMER. IS 115VAC PRESENT?
NO
LOCATE OPEN IN WIRE W552-406-20 OR W559-408-20 BETWEEN TB36 AND TB64. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE CONSOLE LTG TRANSFORMER.
WAS HOIST/CARGO HOOK PANEL LIT?
YES
LOWER ENG COND PNL FROM OVHD PNL. DISCONNECT PLUG 102P6. CHECK FOR 115VAC BETWEEN PLUG 102P6 PIN S AND GROUND. IS 115VAC PRESENT?
YES
CHECK FOR GROUND ON PLUG 102P6 PIN J. IS GROUND PRESENT?
YES
REPLACE ENG COND PNL.
NO
LOCATE OPEN IN WIRE W559-340-22 BETWEEN PLUG 102P6 AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W559-343-22 BETWEEN PLUG 102P6 AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE HOIST/CARGO HOOK PNL.
YES
CHECK FOR GROUND ON PLUG 134P2 PIN S. IS GROUND PRESENT?
YES
LOWER HOIST/CARGO HOOK PNL FROM OVHD PNL. DISCONNECT PLUG 134P2. CHECK FOR 115VAC BETWEEN PLUG 134P2 PIN V AND GROUND. IS 115VAC PRESENT?
NO
LOCATE OPEN IN WIRE W559-249-20 BETWEEN PLUG 134P2 AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W559-176-20 BETWEEN PLUG 134P2 AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED.

GO TO NEXT PAGE


OVERHEAD PANEL
CPLT SRCHLT CONTR
RET
ON
CPLT INST
OVHD CSL
DIM
BRT
OFF
CPLT LTG PANEL
HOIST CARGO HOOK
COCKPIT

9-12 CONSOLE PANEL LIGHTS


NOTE
INDICATES EQUIPMENT MARKING
OVERHEAD PANEL
LIGHTING PANEL
BRT
DIM
OFF
64Ω, 25W PER SECTION
W559-352-22
W559-349-22
W559-351-22
W559-348-22
W559-350-22
W559-347-22
124R1
CONSOLE LTS
300P23
300J23
300J17
300P17
300P19
300J19
W639-307-22
W557-750-22
W645-279-22
NO 1 PDP
300P1
300J1
W550-182-22
LIGHTING CONSOLE
124CB1
26VAC BUS
300P2
300J2
W550-183-22
W645-278-22
300J58
300P58
W557-744-22
124 100
VHF NO 1 RCVR/XMTR 182A1
182P4
W557-542-22
COMM CONT TRP CMDR 187A7
187P30
W564-138-22 RED
W564-GD006F22NBLU
COMM CONT CPLT 187A3
187P26
W564-GD006D22NBLU
W564-136-22 RED
COMM CONT PILOT 187A4
187P27
W564-137-22 RED
W564-GD006E22NBLU
W557-GD017H20N
0-26VAC
HV
124T1
LV
0-5VAC
W557-759-22
W557-761-22
VHF NO 2 RCVR/XMTR 182A2
182P1
W557-540-22
UHF RCVR/XMTR 181A1
181P1
W557-753-22
STEERING CONTROL 137A2
137P2
W557-754-22
W557-755-22
W557-756-22
124DS1
124DS2
ENGINE TRIM PANEL
0-26VAC
TB4
W557-742-22
192P1
VOR/ILS 192A1
W557-740-22
201P2
RADAR DETECT CONT 201A1
W557-741-22
191P7
ADF RCVR CONT 191A1
W557-743-22
W557-GD040J22N
184P5
HF CONT 184A2
W557-749-22
182P19
KY-28 CONT 182A6
W557-751-22
FURNISHED WIRE
LONG STICK IND 124A1
BLK
147P1
FLARE DISPENSER 147A1
W557-855-22
185P1
IFF CONT 185A1
W557-739-22RED
W557-GD006B22NBLU
197P5
DPLR NAV CONT 197A2
W557-GD267A22NBLU
W557-443-22RED
202P4
ECM CONT 202M1
W557-907-22
W557-GD267B22N
0-5VAC
W557-GD040L22N
AFCS CONT 031A5
W557-762-22
W557-508-22
W557-760-22
031P36
FURNISHED WIRES
031T1
W557-GD039A20N
TB7
5VAC
W557-763-22
W557-764-22
TO HSI CIRCUIT
W557-949-22
W557-961-22
232K2
232XK2
W557-509-22
DIMMING RELAY
232XK2
TO MASTER CAUTION CIRCUIT
557

9-12.2 CONSOLE PANEL LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

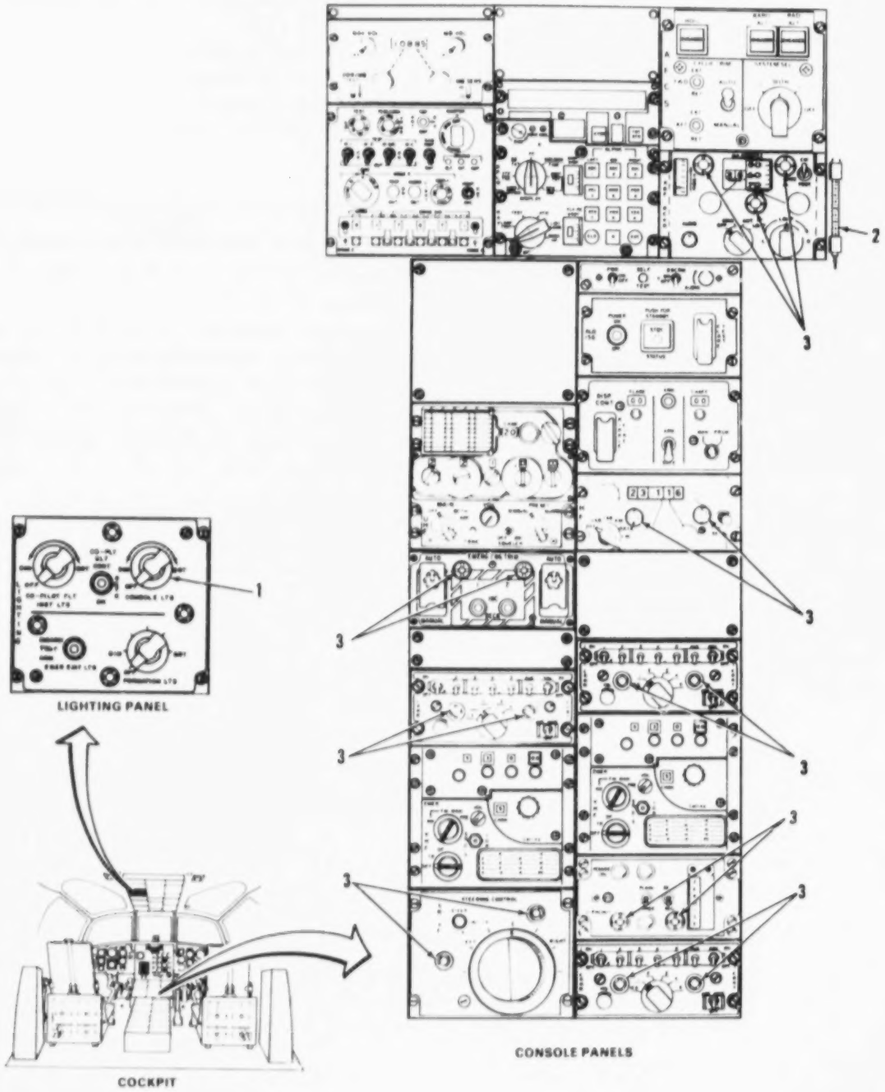
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23.
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check CONSOLE LTS control (1).**	If control (1) is loose or damaged, tighten or replace it as required.
2. **Check longitudinal stick position indicator (2).**	If wire at bottom of indicator (2) is damaged, repair wire or replace light as required.
3. **Check seventeen panel lights (3).**	If any panel light (3) is damaged, replace it.

FOLLOW-ON MAINTENANCE:
None



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END OF TASK

9-12.3 CONSOLE PANEL LIGHTS OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

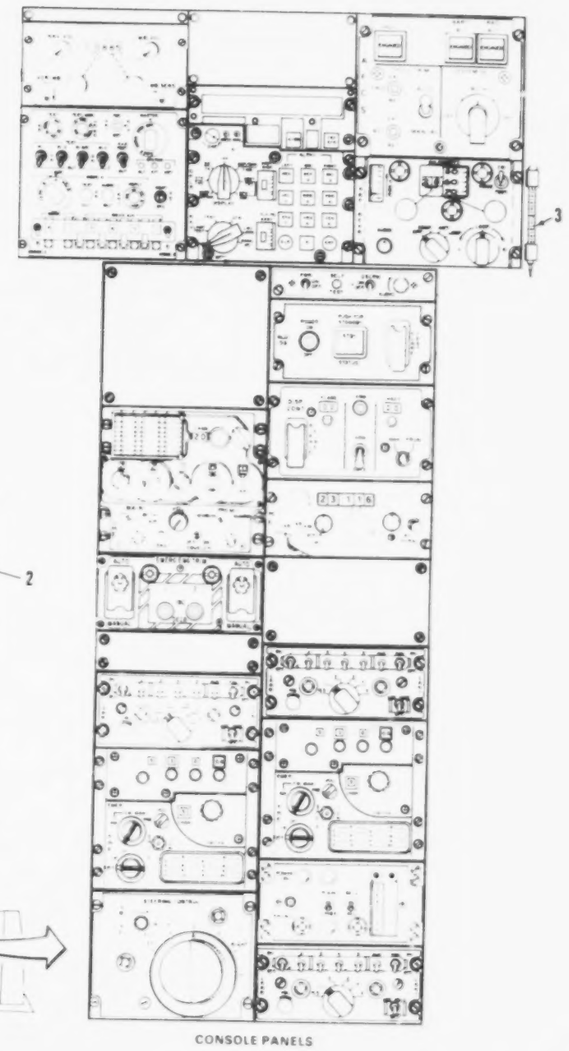
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
Console Panel Lights Visual Check Performed
(Task 9-12.2)
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off

TASK	RESULT
1. **Check** that **LIGHTING CONSOLE circuit breaker (1)** is closed.	If CONSOLE circuit (1) is open, close it. If it opens again, go to task 9-12.4.
2. **Turn CONSOLE LTS control (2) from OFF through DIM to BRT.**	All console panels and longitudinal stick indicator (3) shall come on dim and increse in brightness as control (2) is turned to BRT. If any panel or indicator is not lit, go to task 9-12.5. If panel brightness does not increase, replace CONSOLE LTS control. If only one light is out, replace that light.
3. **Turn CONSOLE LTS control (2) to OFF.**	All console panel lights shall go out. If they do not, replace CONSOLE LTS control (2).

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Electrical Power Off
Battery Disconnected



END OF TASK

9-12.4 CONSOLE CIRCUIT BREAKER DOES NOT STAY CLOSED 9-12.4

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

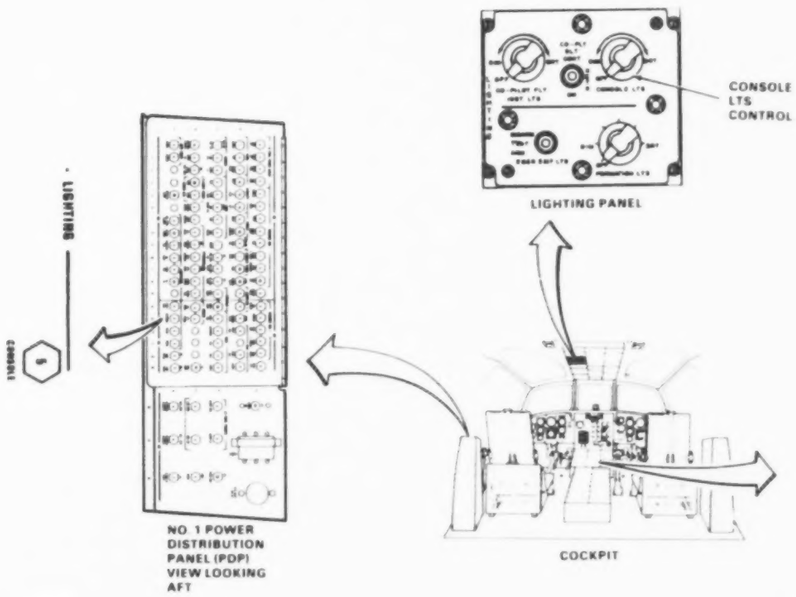
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

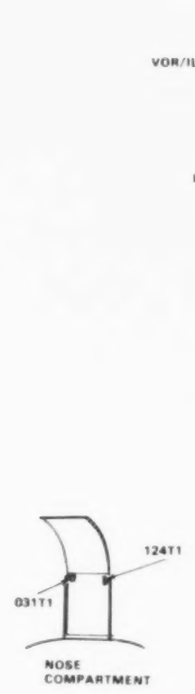
Materials:
None

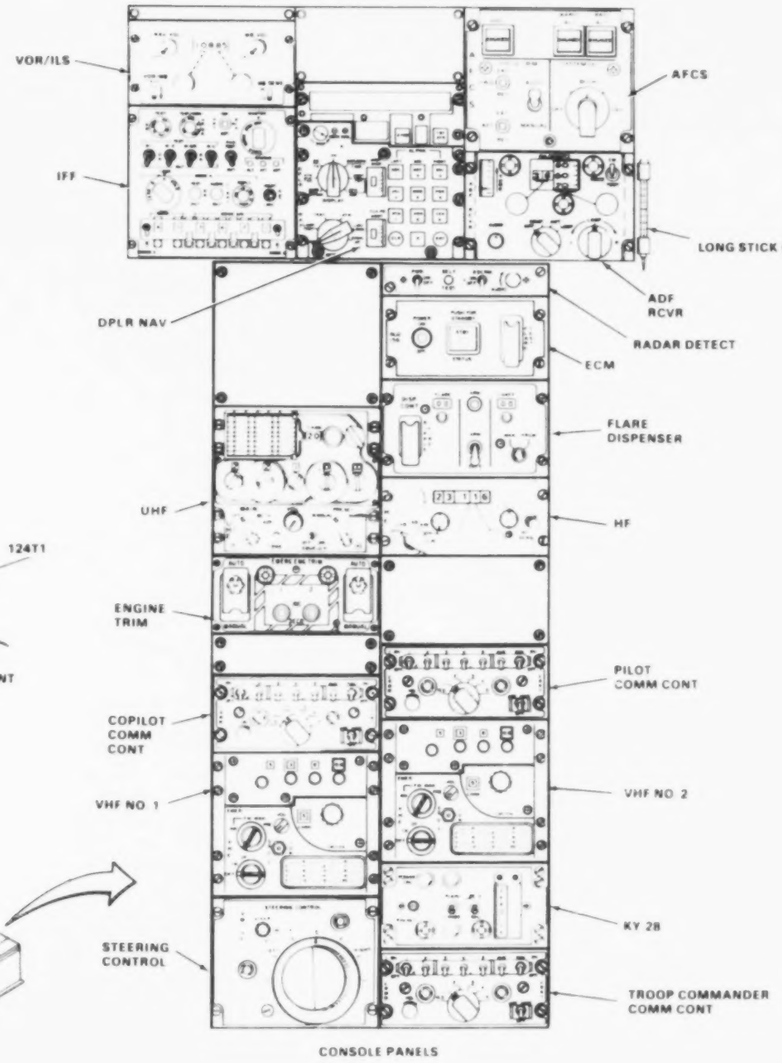
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off







D45-4620-SFA

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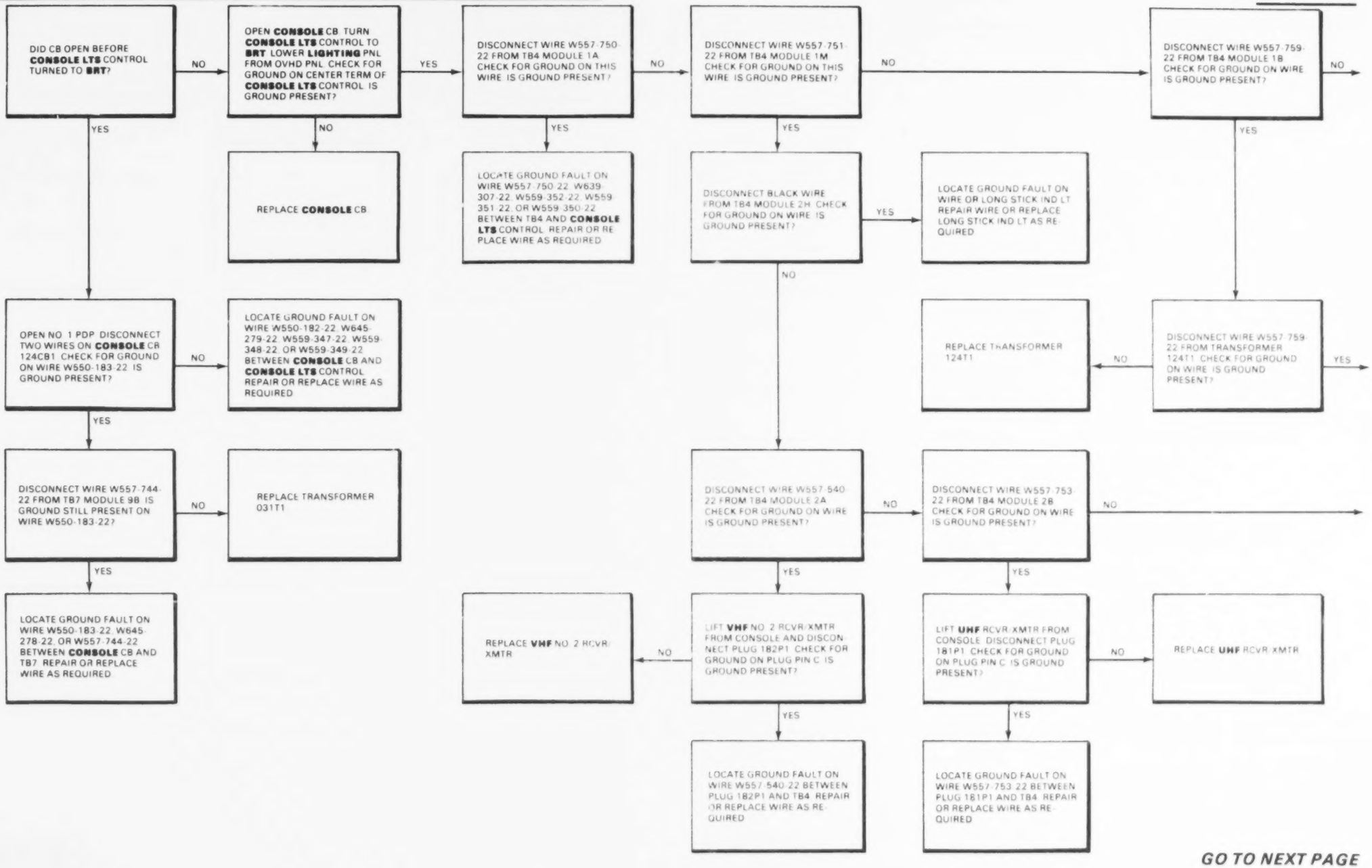
9-12.4 CONSOLE CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)


DID CB OPEN BEFORE **CONSOLE LTS** CONTROL TURNED TO **BRT**?
NO
OPEN **CONSOLE** CB. TURN **CONSOLE LTS** CONTROL TO **BRT**. LOWER **LIGHTING** PNL FROM OVHD PNL. CHECK FOR GROUND ON CENTER TERM OF **CONSOLE LTS** CONTROL. IS GROUND PRESENT?
YES
DISCONNECT WIRE W557-750-22 FROM TB4 MODULE 1A. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
DISCONNECT WIRE W557-751-22 FROM TB4 MODULE 1M. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
DISCONNECT WIRE W557-759-22 FROM TB4 MODULE 1B. CHECK FOR GROUND ON WIRE. IS GROUND PRESENT?
NO
YES
YES
YES
REPLACE **CONSOLE** CB
LOCATE GROUND FAULT ON WIRE W557-750-22, W639-307-22, W559-352-22, W559-351-22, OR W559-350-22 BETWEEN TB4 AND **CONSOLE LTS** CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED
DISCONNECT BLACK WIRE FROM TB4 MODULE 2H. CHECK FOR GROUND ON WIRE. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE OR LONG STICK IND LT. REPAIR WIRE OR REPLACE LONG STICK IND LT AS REQUIRED
NO
OPEN NO. 1 PDP. DISCONNECT TWO WIRES ON **CONSOLE** CB 124CB1. CHECK FOR GROUND ON WIRE W550-183-22. IS GROUND PRESENT?
NO
LOCATE GROUND FAULT ON WIRE W550-182-22, W645-279-22, W559-347-22, W559-348-22, OR W559-349-22 BETWEEN **CONSOLE** CB AND **CONSOLE LTS** CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE TRANSFORMER 124T1
NO
DISCONNECT WIRE W557-759-22 FROM TRANSFORMER 124T1. CHECK FOR GROUND ON WIRE. IS GROUND PRESENT?
YES
YES
DISCONNECT WIRE W557-744-22 FROM TB7 MODULE 9B. IS GROUND STILL PRESENT ON WIRE W550-183-22?
NO
REPLACE TRANSFORMER 031T1
DISCONNECT WIRE W557-540-22 FROM TB4 MODULE 2A. CHECK FOR GROUND ON WIRE. IS GROUND PRESENT?
NO
DISCONNECT WIRE W557-753-22 FROM TB4 MODULE 2B. CHECK FOR GROUND ON WIRE. IS GROUND PRESENT?
NO
YES
YES
LOCATE GROUND FAULT ON WIRE W550-183-22, W645-278-22, OR W557-744-22 BETWEEN **CONSOLE** CB AND TB7. REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE **VHF** NO. 2 RCVR/XMTR
NO
LIFT **VHF** NO. 2 RCVR/XMTR FROM CONSOLE AND DISCONNECT PLUG 182P1. CHECK FOR GROUND ON PLUG PIN C. IS GROUND PRESENT?
LIFT **UHF** RCVR/XMTR FROM CONSOLE. DISCONNECT PLUG 181P1. CHECK FOR GROUND ON PLUG PIN C. IS GROUND PRESENT?
NO
REPLACE **UHF** RCVR/XMTR
YES
YES
LOCATE GROUND FAULT ON WIRE W557-540-22 BETWEEN PLUG 182P1 AND TB4. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W557-753-22 BETWEEN PLUG 181P1 AND TB4. REPAIR OR REPLACE WIRE AS REQUIRED

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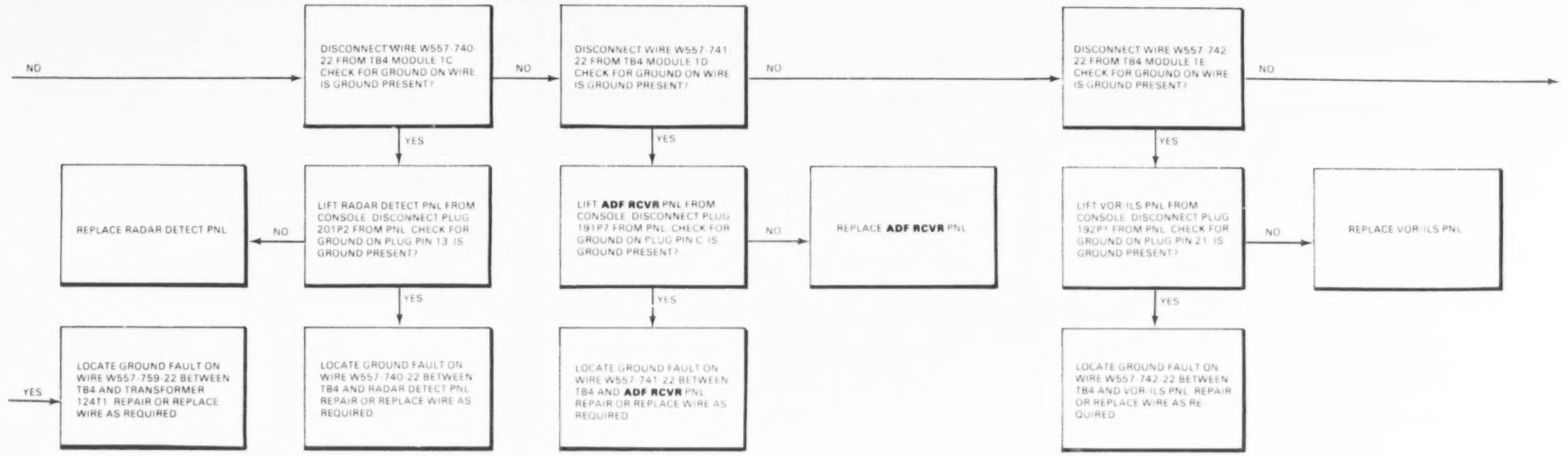
9-12.4 CONSOLE CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)


NO
DISCONNECT WIRE W557-740-22 FROM TB4 MODULE 1C CHECK FOR GROUND ON WIRE IS GROUND PRESENT?
NO
DISCONNECT WIRE W557-741-22 FROM TB4 MODULE 1D CHECK FOR GROUND ON WIRE IS GROUND PRESENT?
NO
DISCONNECT WIRE W557-742-22 FROM TB4 MODULE 1E CHECK FOR GROUND ON WIRE IS GROUND PRESENT?
NO
YES
YES
YES
REPLACE RADAR DETECT PNL
NO
LIFT RADAR DETECT PNL FROM CONSOLE DISCONNECT PLUG 201P2 FROM PNL CHECK FOR GROUND ON PLUG PIN 13 IS GROUND PRESENT?
LIFT ADF RCVR PNL FROM CONSOLE DISCONNECT PLUG 191P7 FROM PNL CHECK FOR GROUND ON PLUG PIN C IS GROUND PRESENT?
NO
REPLACE ADF RCVR PNL
LIFT VOR/ILS PNL FROM CONSOLE DISCONNECT PLUG 192P1 FROM PNL CHECK FOR GROUND ON PLUG PIN 21 IS GROUND PRESENT?
NO
REPLACE VOR/ILS PNL
YES
YES
YES
YES
LOCATE GROUND FAULT ON WIRE W557-759-22 BETWEEN TB4 AND TRANSFORMER 124T1 REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W557-740-22 BETWEEN TB4 AND RADAR DETECT PNL REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W557-741-22 BETWEEN TB4 AND ADF RCVR PNL REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W557-742-22 BETWEEN TB4 AND VOR/ILS PNL REPAIR OR REPLACE WIRE AS REQUIRED
NO
DISCONNECT WIRE W557-754-22 FROM TB4 MODULE 2C CHECK FOR GROUND ON WIRE IS GROUND PRESENT?
NO
DISCONNECT WIRE W557-755-22 FROM TB4 MODULE 2D CHECK FOR GROUND ON WIRE IS GROUND PRESENT?
NO
LIFT IFF PNL FROM CONSOLE DISCONNECT PLUG 185P1 FROM PNL CHECK FOR GROUND ON PLUG PIN 14 IS GROUND PRESENT?
NO
REPLACE IFF PNL
YES
YES
YES
LIFT STEERING CONTROL PNL FROM CONSOLE DISCONNECT PLUG FROM PNL CHECK FOR GROUND ON PLUG PIN T IS GROUND PRESENT?
NO
REPLACE STEERING CONTROL PNL
LOCATE GROUND FAULT ON WIRE W557-755-22 OR W557-756-22 BETWEEN TB4 AND ENGINE TRIM PNL REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W557-739-22 BETWEEN TB4 AND IFF PNL REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE GROUND FAULT ON WIRE W55-754-22 BETWEEN TB4 AND PLUG 137P2 REPAIR OR REPLACE WIRE AS REQUIRED

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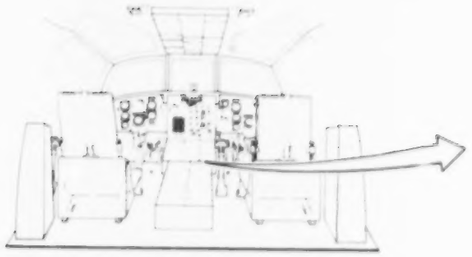
9-12.4 CONSOLE CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)



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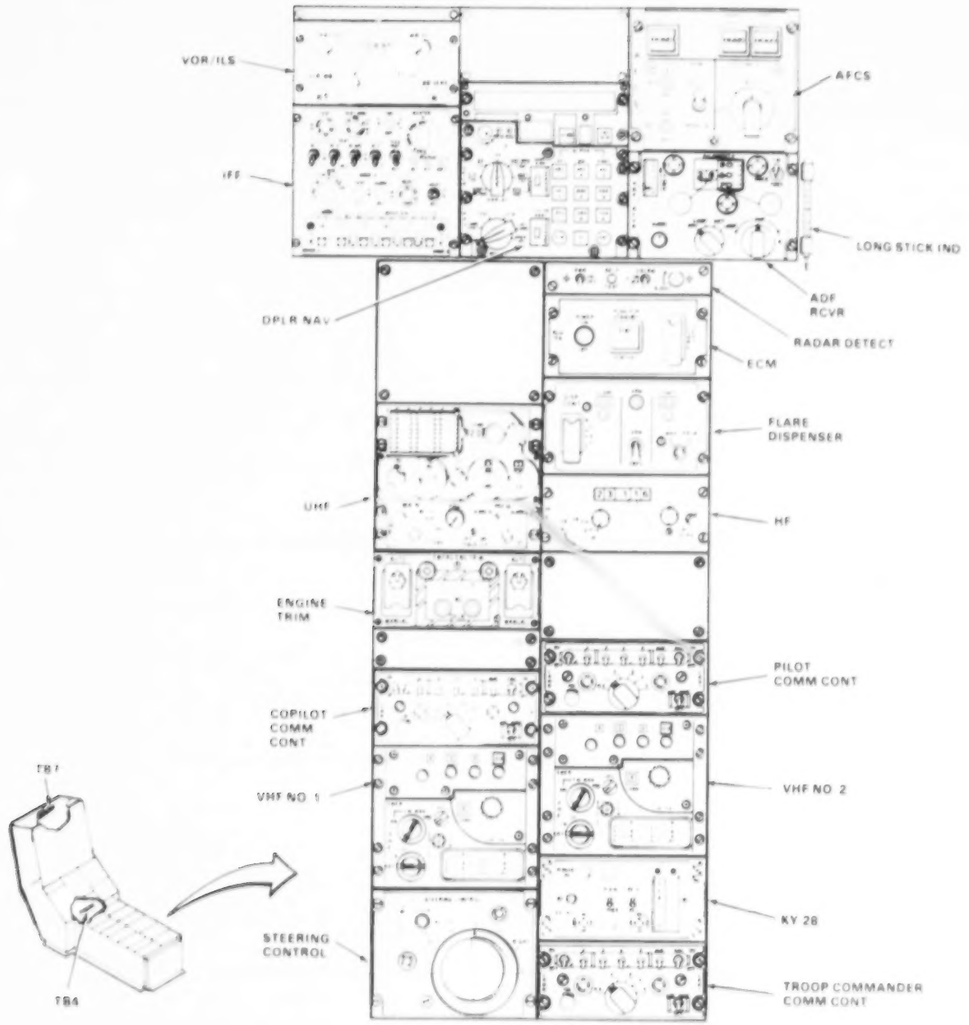

CONSOLE PANELS

GO TO NEXT PAGE

9-12.4 CONSOLE CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)

NO
DISCONNECT WIRE W557-743-22 FROM TB4 MODULE 1F. CHECK FOR GROUND ON WIRE. IS GROUND PRESENT?
NO
DISCONNECT WIRE W557-749-22 FROM TB4 MODULE 1G. CHECK FOR GROUND ON WIRE. IS GROUND PRESENT?
NO
DISCONNECT WIRE W564-137-22 RED FROM TB4 MODULE 1H. CHECK FOR GROUND ON WIRE. IS GROUND PRESENT?
YES
LIFT PILOT'S COMM CONT PNL. DISCONNECT PLUG 187P27 FROM PNL. CHECK FOR GROUND ON PIN U. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W564-137-22 RED BETWEEN TB4 AND PILOT'S COMM CONT PNL. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE PILOT'S COMM CONT PNL
YES
YES
YES
LIFT KY-28 PNL FROM CONSOLE. DISCONNECT PLUG 182P19 FROM PNL. CHECK FOR GROUND ON PLUG PIN H. IS GROUND PRESENT?
NO
REPLACE KY-28 PNL
YES
LOCATE GROUND FAULT ON WIRE W557-749-22 BETWEEN TB4 AND KY-28 PNL. REPAIR OR REPLACE WIRE AS REQUIRED
DISCONNECT WIRE W564-136-22 RED FROM TB4 MODULE J. CHECK FOR GROUND ON WIRE. IS GROUND PRESENT?
YES
LIFT COPILOT'S COMM CONT PNL FROM CONSOLE. DISCONNECT PLUG 187P26 FROM PNL. CHECK FOR GROUND ON PLUG PIN U. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W564-136-22 RED BETWEEN TB4 AND COPILOT'S COMM CONT PNL. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE COPILOT'S COMM CONT PNL
NO
LOCATE GROUND FAULT ON WIRE W557-542-22 BETWEEN TB4 AND VHF NO. 2 RCVR XMTR. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LIFT HF PNL FROM CONSOLE. DISCONNECT PLUG 184P5 FROM PNL. CHECK FOR GROUND ON PLUG PIN d. IS GROUND PRESENT?
NO
REPLACE HF PNL
LIFT VHF NO. 1 RCVR XMTR FROM CONSOLE. DISCONNECT PLUG 182P4 FROM RCVR XMTR. CHECK FOR GROUND ON PLUG PIN C. IS GROUND PRESENT?
NO
DISCONNECT WIRE W564-138-22 RED FROM TB4 MODULE 1K. CHECK FOR GROUND ON WIRE. IS GROUND PRESENT?
YES
LIFT TROOP COMMANDER'S COMM CONT PNL FROM CONSOLE. DISCONNECT PLUG 187P30 FROM PNL. CHECK FOR GROUND ON PLUG PIN U. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W564-138-22 RED BETWEEN TB4 AND TROOP COMMANDER'S COMM CONT PNL. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE TROOP COMMANDER'S COMM CONT PNL
YES
LOCATE GROUND FAULT ON WIRE W557-743-22 BETWEEN TB4 AND HF PNL. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE VHF NO. 1 RCVR XMTR

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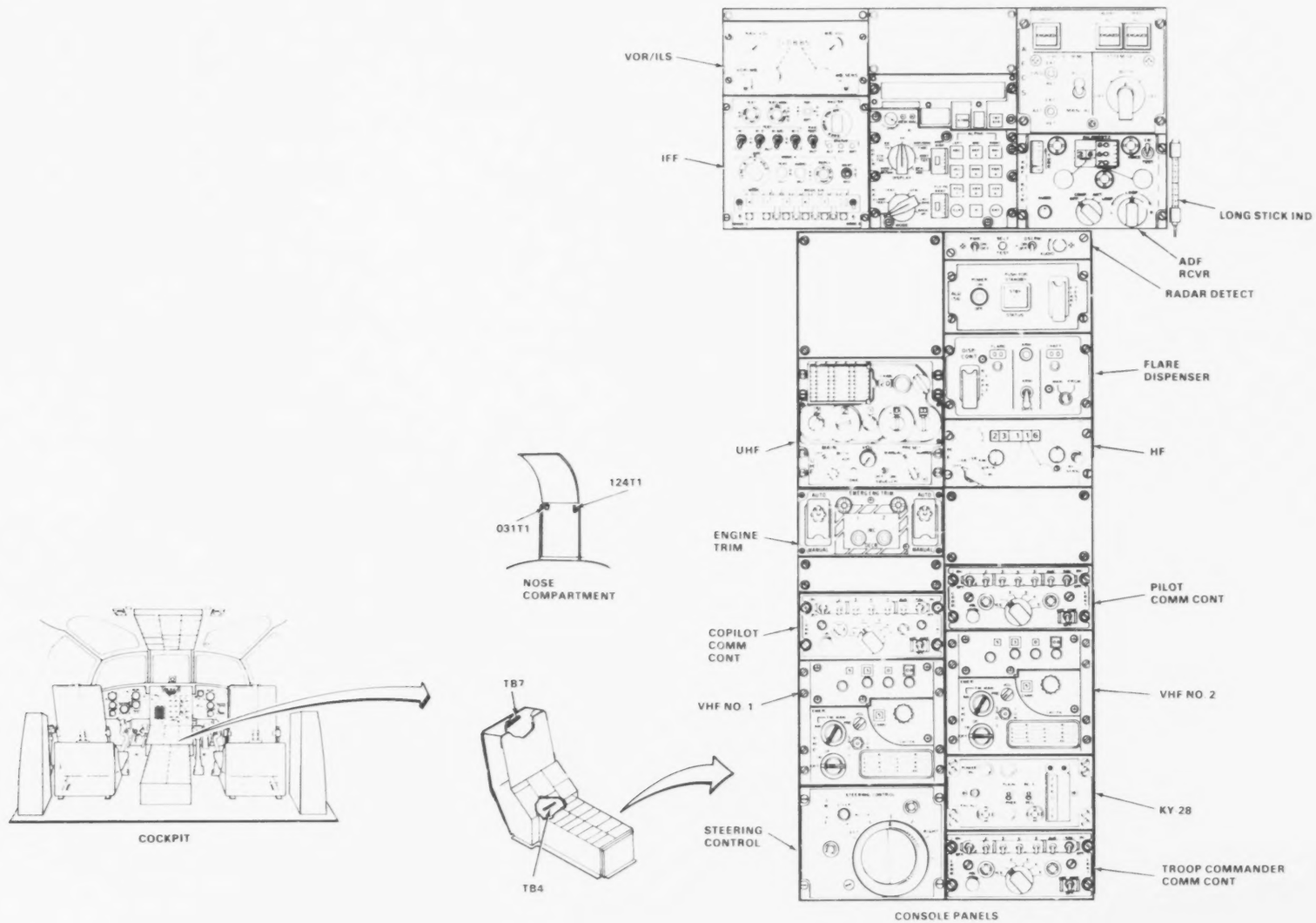
9-12.4 CONSOLE CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)



END OF TASK

9-12.5 CONSOLE PANEL LIGHT OR LIGHTS NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

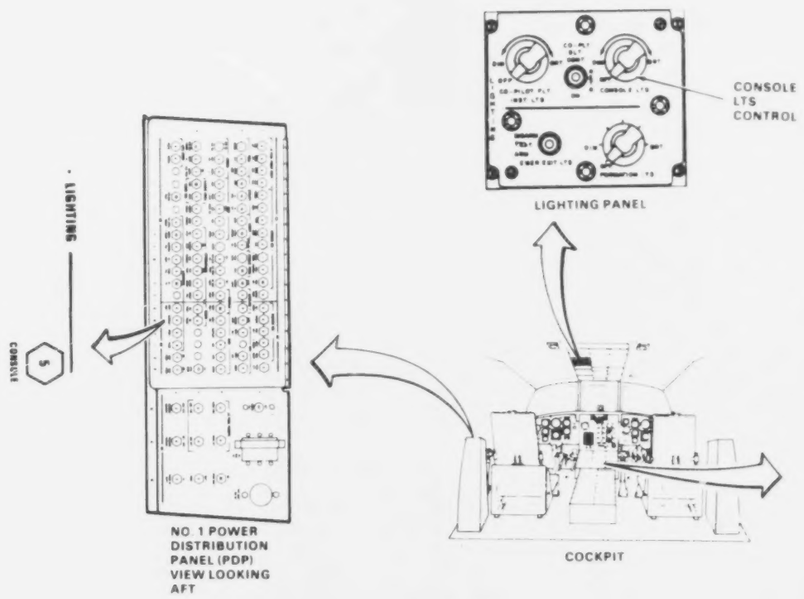
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



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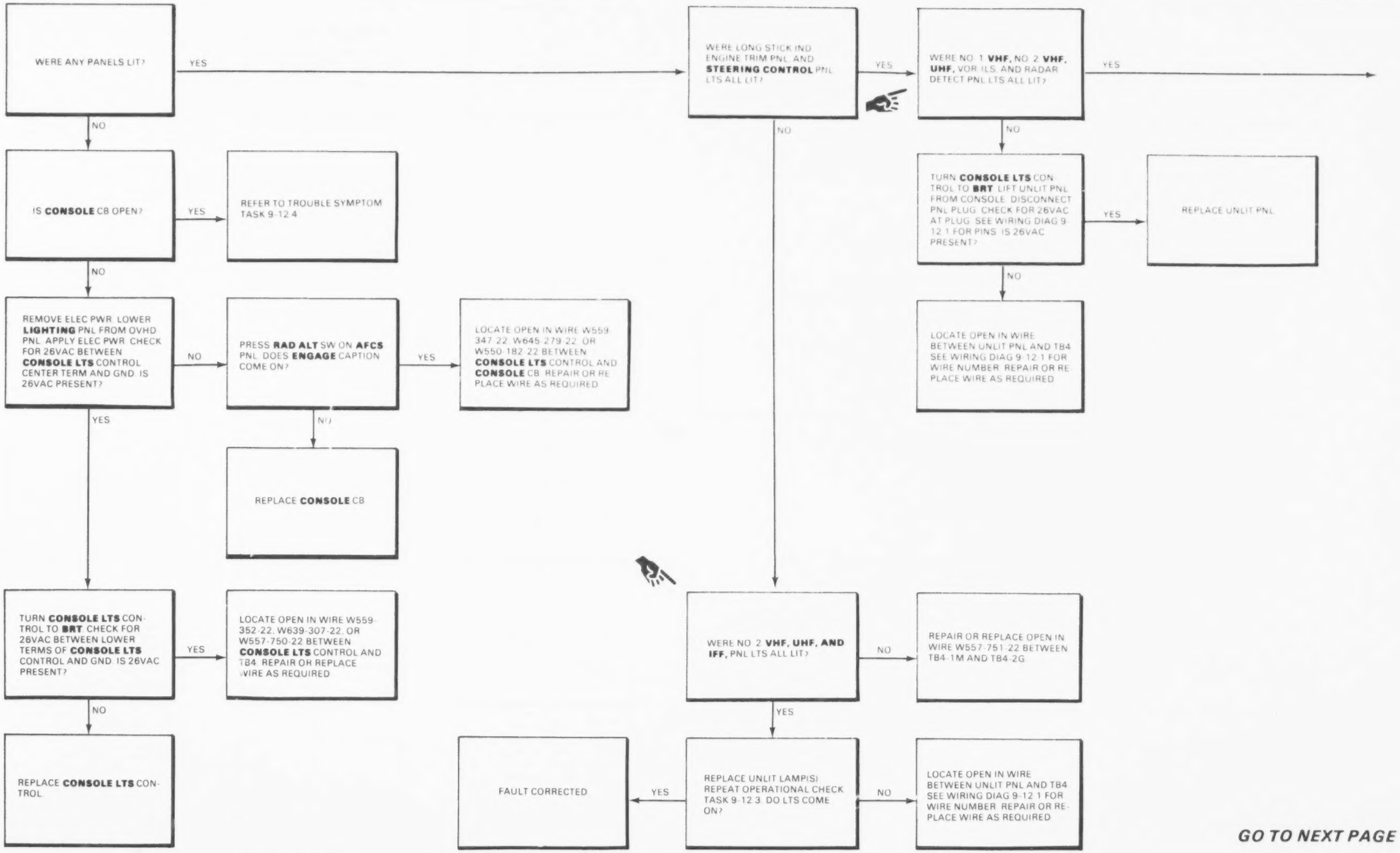
9-12.5 CONSOLE PANEL LIGHT OR LIGHTS NOT LIT (Continued)


WERE ANY PANELS LIT?
YES
NO
IS CONSOLE CB OPEN?
YES
REFER TO TROUBLE SYMPTOM TASK 9-12.4
NO
REMOVE ELEC PWR. LOWER LIGHTING PNL FROM OVHD PNL. APPLY ELEC PWR. CHECK FOR 26VAC BETWEEN CONSOLE LTS CONTROL CENTER TERM AND GND. IS 26VAC PRESENT?
NO
PRESS RAD ALT SW ON AFCS PNL. DOES ENGAGE CAPTION COME ON?
YES
LOCATE OPEN IN WIRE W559-347-22, W645-279-22, OR W550-182-22 BETWEEN CONSOLE LTS CONTROL AND CONSOLE CB. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE CONSOLE CB
YES
TURN CONSOLE LTS CONTROL TO BRT. CHECK FOR 26VAC BETWEEN LOWER TERMS OF CONSOLE LTS CONTROL AND GND. IS 26VAC PRESENT?
YES
LOCATE OPEN IN WIRE W559-352-22, W639-307-22, OR W557-750-22 BETWEEN CONSOLE LTS CONTROL AND TB4. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE CONSOLE LTS CONTROL
WERE LONG STICK IND, ENGINE TRIM PNL AND STEERING CONTROL PNL LTS ALL LIT?
YES
WERE NO. 1 VHF, NO. 2 VHF, UHF, VOR/ILS, AND RADAR DETECT PNL LTS ALL LIT?
YES
NO
TURN CONSOLE LTS CONTROL TO BRT. LIFT UNLIT PNL FROM CONSOLE. DISCONNECT PNL PLUG. CHECK FOR 26VAC AT PLUG. SEE WIRING DIAG 9-12.1 FOR PINS. IS 26VAC PRESENT?
YES
REPLACE UNLIT PNL
NO
LOCATE OPEN IN WIRE BETWEEN UNLIT PNL AND TB4. SEE WIRING DIAG 9-12.1 FOR WIRE NUMBER. REPAIR OR REPLACE WIRE AS REQUIRED
NO
WERE NO. 2 VHF, UHF, AND IFF, PNL LTS ALL LIT?
NO
REPAIR OR REPLACE OPEN IN WIRE W557-751-22 BETWEEN TB4-1M AND TB4-2G
YES
REPLACE UNLIT LAMP(S). REPEAT OPERATIONAL CHECK TASK 9-12.3. DO LTS COME ON?
YES
FAULT CORRECTED
NO
LOCATE OPEN IN WIRE BETWEEN UNLIT PNL AND TB4. SEE WIRING DIAG 9-12.1 FOR WIRE NUMBER. REPAIR OR REPLACE WIRE AS REQUIRED

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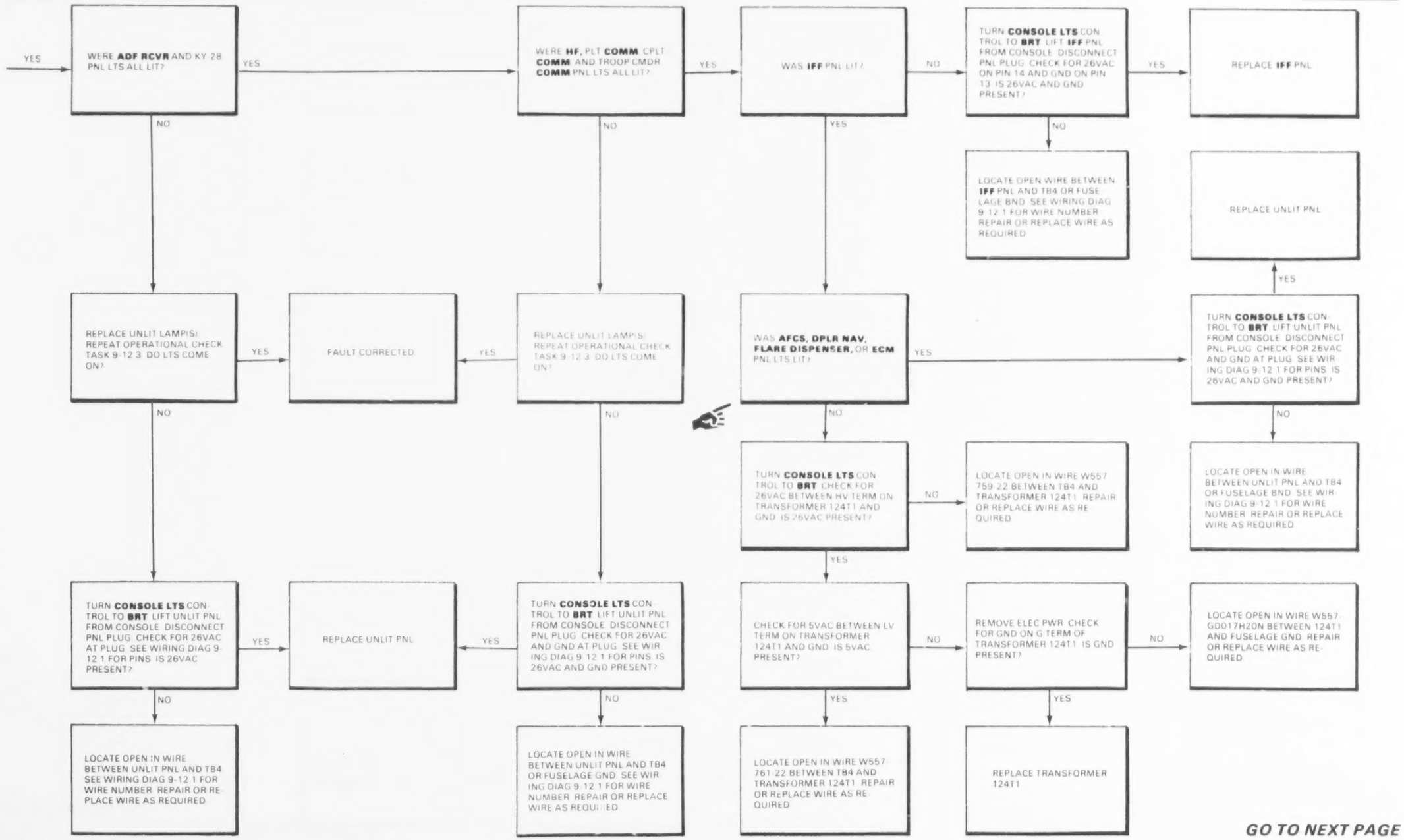
9-12.5 CONSOLE PANEL LIGHT OR LIGHTS NOT LIT (Continued)


YES
WERE **ADF RCVR** AND KY-28 PNL LTS ALL LIT?
YES
WERE **HF, PLT COMM, CPLT COMM**, AND TROOP CMDR **COMM** PNL LTS ALL LIT?
YES
WAS **IFF** PNL LIT?
NO
TURN **CONSOLE LTS** CONTROL TO **BRT**. LIFT **IFF** PNL FROM CONSOLE. DISCONNECT PNL PLUG. CHECK FOR 26VAC ON PIN 14 AND GND ON PIN 13. IS 26VAC AND GND PRESENT?
YES
REPLACE **IFF** PNL
NO
LOCATE OPEN WIRE BETWEEN **IFF** PNL AND TB4 OR FUSELAGE BND. SEE WIRING DIAG 9-12.1 FOR WIRE NUMBER. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE UNLIT LAMP(S). REPEAT OPERATIONAL CHECK TASK 9-12.3. DO LTS COME ON?
YES
FAULT CORRECTED
YES
REPLACE UNLIT LAMP(S). REPEAT OPERATIONAL CHECK TASK 9-12.3. DO LTS COME ON?
NO
WAS **AFCS, DPLR NAV, FLARE DISPENSER**, OR **ECM** PNL LTS LIT?
YES
REPLACE UNLIT PNL
YES
TURN **CONSOLE LTS** CONTROL TO **BRT**. LIFT UNLIT PNL FROM CONSOLE. DISCONNECT PNL PLUG. CHECK FOR 26VAC AND GND AT PLUG. SEE WIRING DIAG 9-12.1 FOR PINS. IS 26VAC AND GND PRESENT?
NO
LOCATE OPEN IN WIRE BETWEEN UNLIT PNL AND TB4 OR FUSELAGE BND. SEE WIRING DIAG 9-12.1 FOR WIRE NUMBER. REPAIR OR REPLACE WIRE AS REQUIRED
NO
TURN **CONSOLE LTS** CONTROL TO **BRT**. CHECK FOR 26VAC BETWEEN HV TERM ON TRANSFORMER 124T1 AND GND. IS 26VAC PRESENT?
NO
LOCATE OPEN IN WIRE W557-759-22 BETWEEN TB4 AND TRANSFORMER 124T1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
TURN **CONSOLE LTS** CONTROL TO **BRT**. LIFT UNLIT PNL FROM CONSOLE. DISCONNECT PNL PLUG. CHECK FOR 26VAC AND GND AT PLUG. SEE WIRING DIAG 9-12.1 FOR PINS. IS 26VAC AND GND PRESENT?
YES
REPLACE UNLIT PNL
YES
TURN **CONSOLE LTS** CONTROL TO **BRT**. LIFT UNLIT PNL FROM CONSOLE. DISCONNECT PNL PLUG. CHECK FOR 26VAC AND GND AT PLUG. SEE WIRING DIAG 9-12.1 FOR PINS. IS 26VAC AND GND PRESENT?
NO
LOCATE OPEN IN WIRE BETWEEN UNLIT PNL AND TB4 OR FUSELAGE GND. SEE WIRING DIAG 9-12.1 FOR WIRE NUMBER. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR 5VAC BETWEEN LV TERM ON TRANSFORMER 124T1 AND GND. IS 5VAC PRESENT?
NO
REMOVE ELEC PWR. CHECK FOR GND ON G TERM OF TRANSFORMER 124T1. IS GND PRESENT?
NO
LOCATE OPEN IN WIRE W557-GD017H20N BETWEEN 124T1 AND FUSELAGE GND. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE OPEN IN WIRE W557-761-22 BETWEEN TB4 AND TRANSFORMER 124T1. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE TRANSFORMER 124T1

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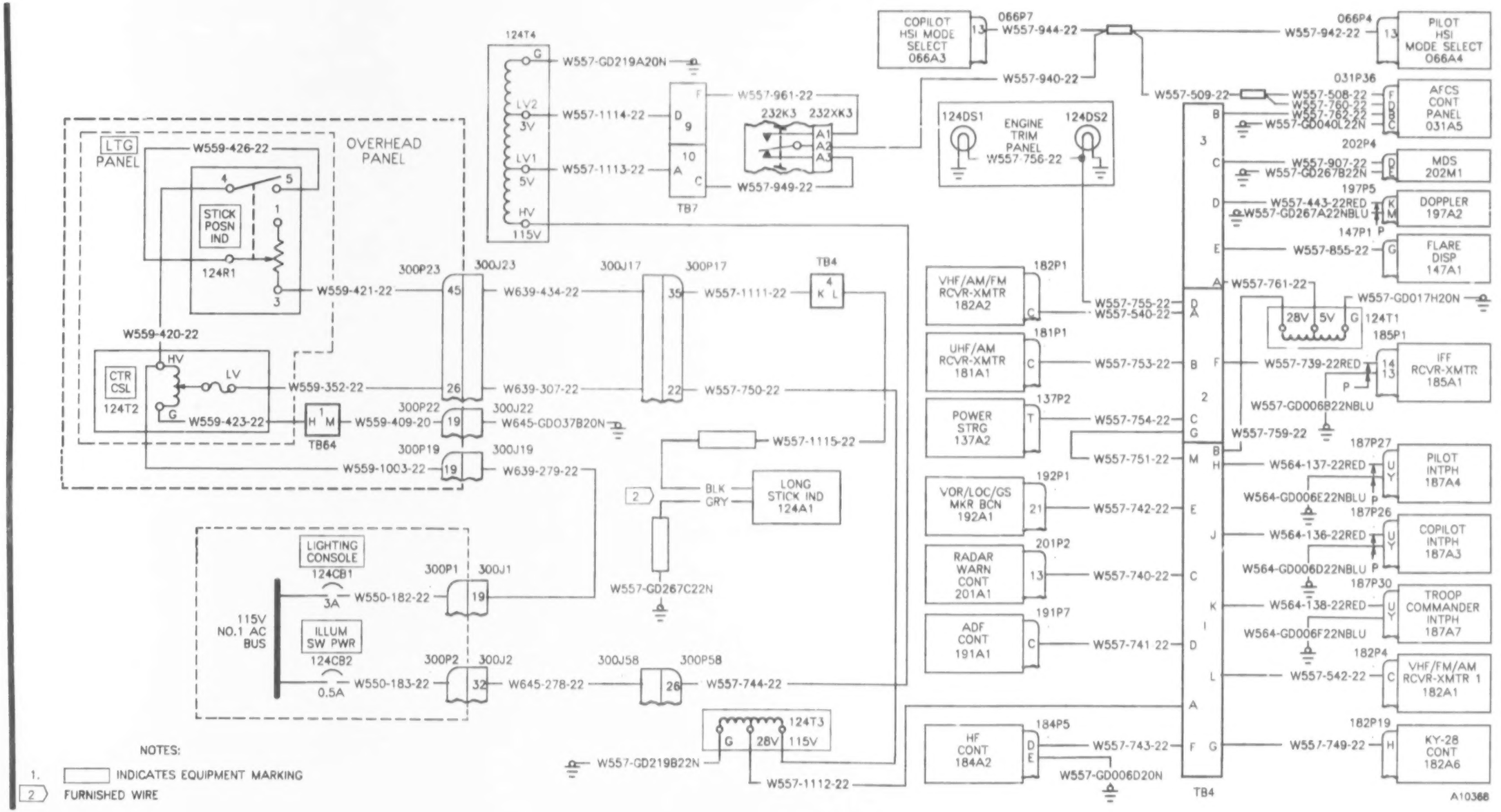
COCKPIT
TB7
TB4
12471
NOSE COMPARTMENT
VOR/ILS
IFF
DPLR NAV
UHF
ENGINE TRIM
COPILOT COMM CONT
VHF NO 1
STEERING CONTROL
AFCS
LONG STICK IND
ADF RCVR
RADAR DETECT
ECM
FLARE DISPENSER
HF
PILOT COMM CONT
VHF NO 2
KY 28
TROOP COMMANDER COMM CONT
CONSOLE PANELS

END OF TASK



NOTES:

1. ▭ INDICATES EQUIPMENT MARKING
2. 〉 FURNISHED WIRE

9-12.7 CONSOLE PANEL LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

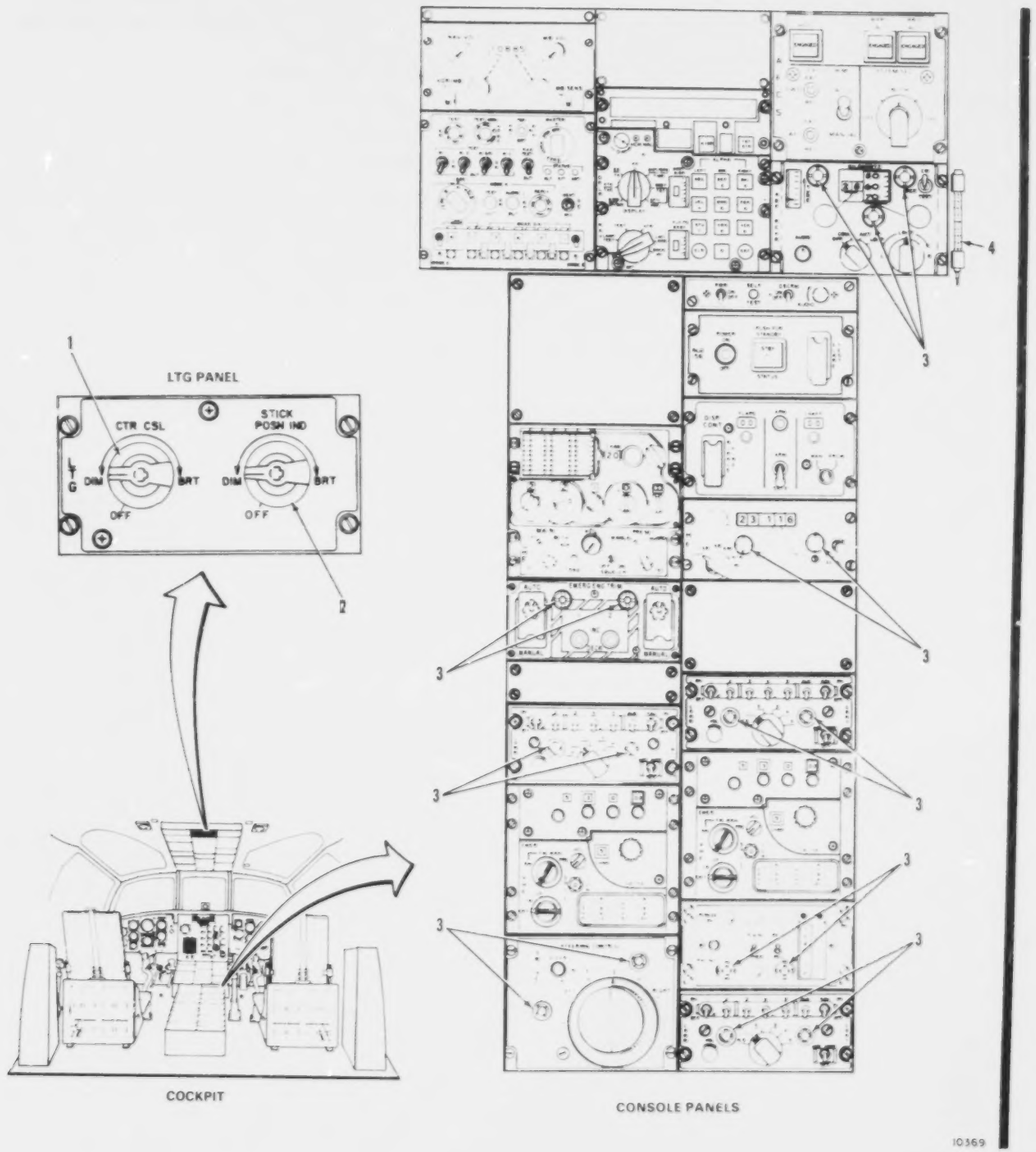
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check CTR CSL control (1).**	If control (1) is loose or damaged, tighten or replace it as required.
2. **Check STICK POSN IND control (2).**	If control (2) is loose or damaged, tighten or replace it as required.
3. **Check seventeen panel lights (3).**	If any panel light (3) is damaged, replace it.
4. **Check light under longitudinal stick position indicator (4).**	If light under indicator (4) is damaged, replace light as required.

FOLLOW-ON MAINTENANCE:
None



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END OF TASK

9-12.8 CONSOLE PANEL LIGHTS OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
With 17

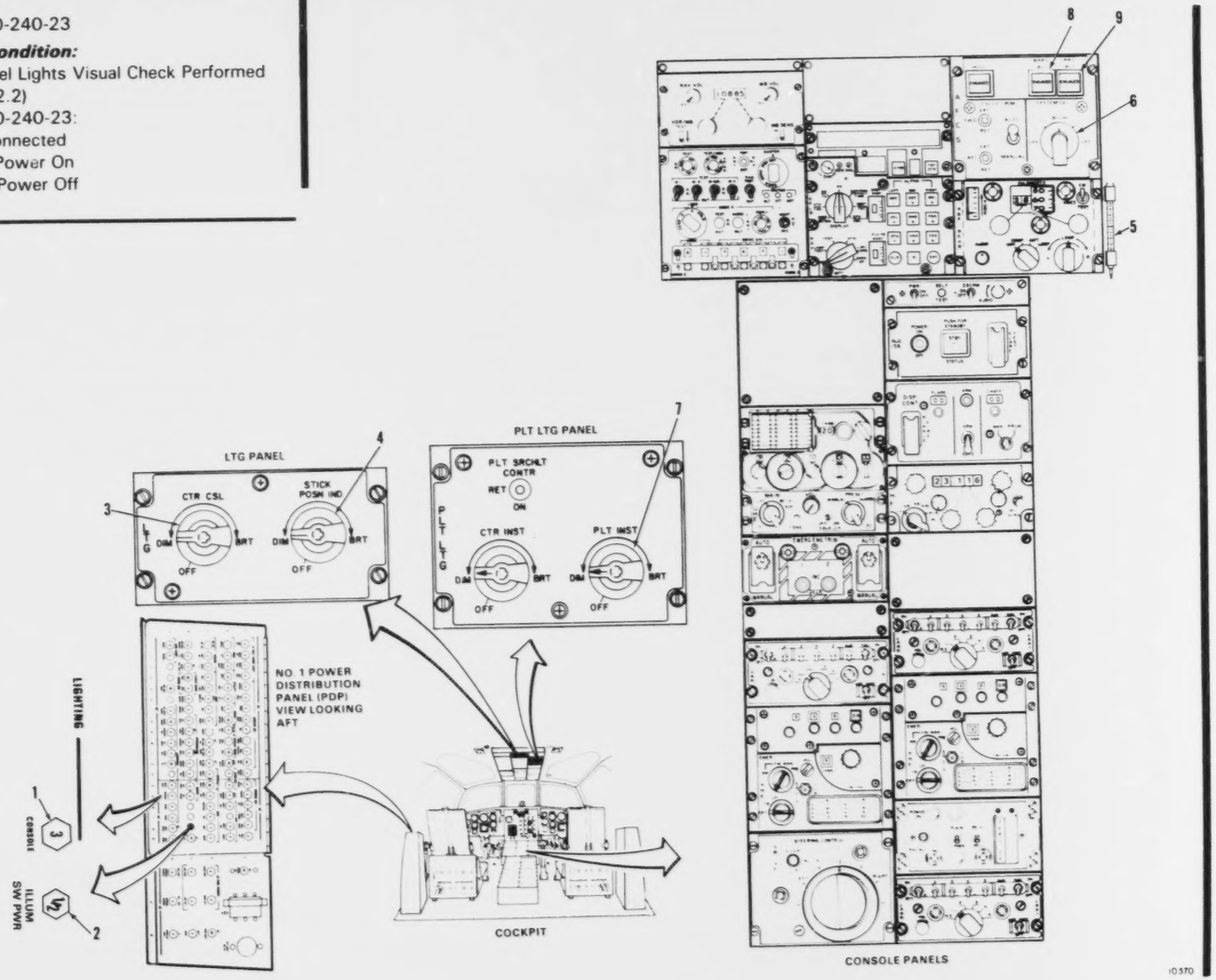
Tools:
None

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
Console Panel Lights Visual Check Performed (Task 9-12.2)
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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9-12.8 CONSOLE PANEL LIGHTS OPERATIONAL CHECK (Continued)

TASK	RESULT
CHECK CONSOLE PANEL LIGHTS	
1. **Check** that **CONSOLE circuit breaker (1)** is closed.	If CONSOLE circuit breaker (1) is open, close it. If it opens again, go to task 9-12.9.
2. **Check** that **ILLUM SW PWR circuit breaker (2)** is closed.	If ILLUM SW PWR circuit breaker (1) is open, close it. If it opens again, go to task 9-12.10.
3. **Turn CTR CSL control (3) from OFF through DIM to BRT.**	All console panels shall come on dim and increase in brightness as control (3) is turned to BRT. If any panel is not lit, go to task 9-12.11. If panel brightness does not increase, replace CTR CSL control. If only one light is out, replace that light.
4. **Turn STICK POSN IND control (4) from OFF through DIM to BRT.**	Longitudinal stick indicator (5) shll come on dim and increase in brightness as control (4) is turned to BRT. If indicator (5) is not lit, go to task 9-12.12. If indicator brightness does not increase above dim, replace STICK POSN IND control (4).
5. **Turn CTR CSL control (3) to OFF.**	All console panel lights shall go out. If they do not, replace CTR CSL control (3).
6. **Turn STICK POSN IND control (4) to OFF.**	Longitucinal stick indicator (5) shall go out. If it does not, replace STICK POSN IND control (4).

TASK	RESULT
CHECK ILLUMINATED SWITCHES	
7. **Set SYS SEL switch (6) on AFCS panel to OFF.**	
8. **Set PLT INST lights control (7) to OFF.**	
9. Press and hold **BARO ALT switch (8).**	Caption on BARO ALT switch (8) shall light bright. If it does not come on, go to task 9-12.13.
10. **Release BARO ALT switch (8).**	Caption on BARO ALT switch (8) shall go out.
11. **Set PLT INST lights control (7) to ON.**	
12. Press and hold **RAD ALT switch (9).**	Caption on RAD ALT switch (9) shall light dim. If it does not light dim, go to task 9-12.14.
13. Set **Pilot inst** lights control (7) to OFF.	Caption on RAD ALT switch (9) shall light bright.
14. **Release RAD ALT switch (9).**	

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Electrical Power Off
Battery Disconnected

END OF TASK

9-12.9 CONSOLE CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

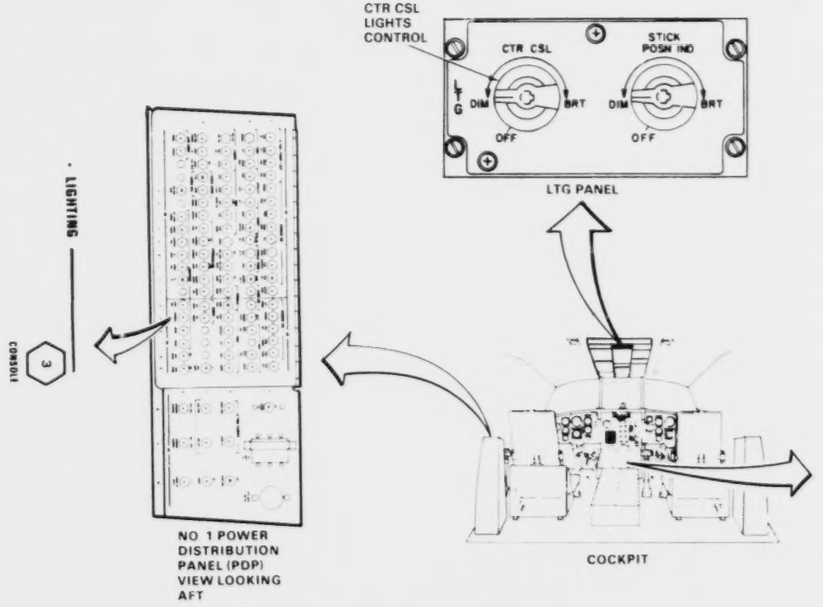
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



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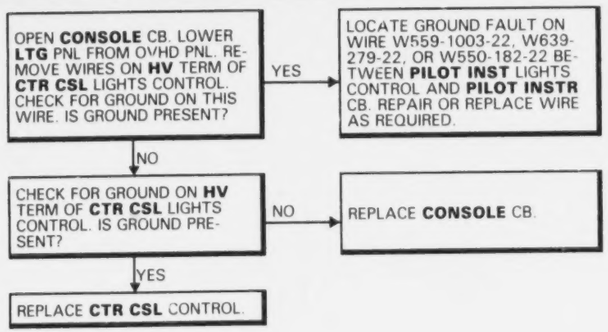
9-12.9 CONSOLE CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)


OPEN **CONSOLE** CB. LOWER **LTG** PNL FROM OVHD PNL. REMOVE WIRES ON **HV** TERM OF **CTR CSL** LIGHTS CONTROL. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W559-1003-22, W639-279-22, OR W550-182-22 BETWEEN **PILOT INST** LIGHTS CONTROL AND **PILOT INSTR** CB. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR GROUND ON **HV** TERM OF **CTR CSL** LIGHTS CONTROL. IS GROUND PRESENT?
NO
REPLACE **CONSOLE** CB.
YES
REPLACE **CTR CSL** CONTROL.

END OF TASK

9-12.10 ILLUM SW PWR CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

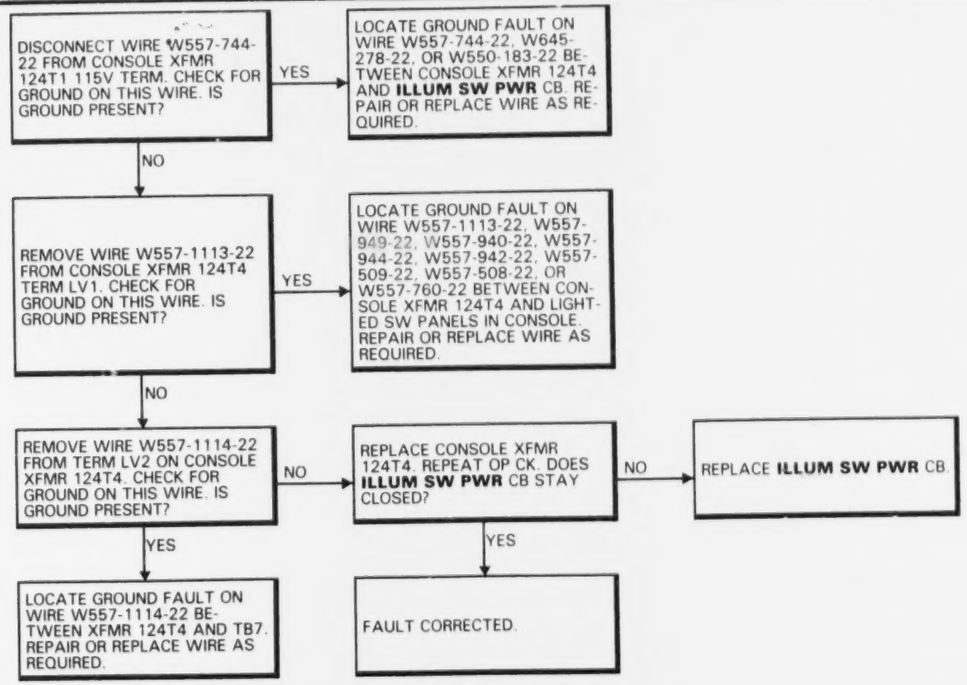
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

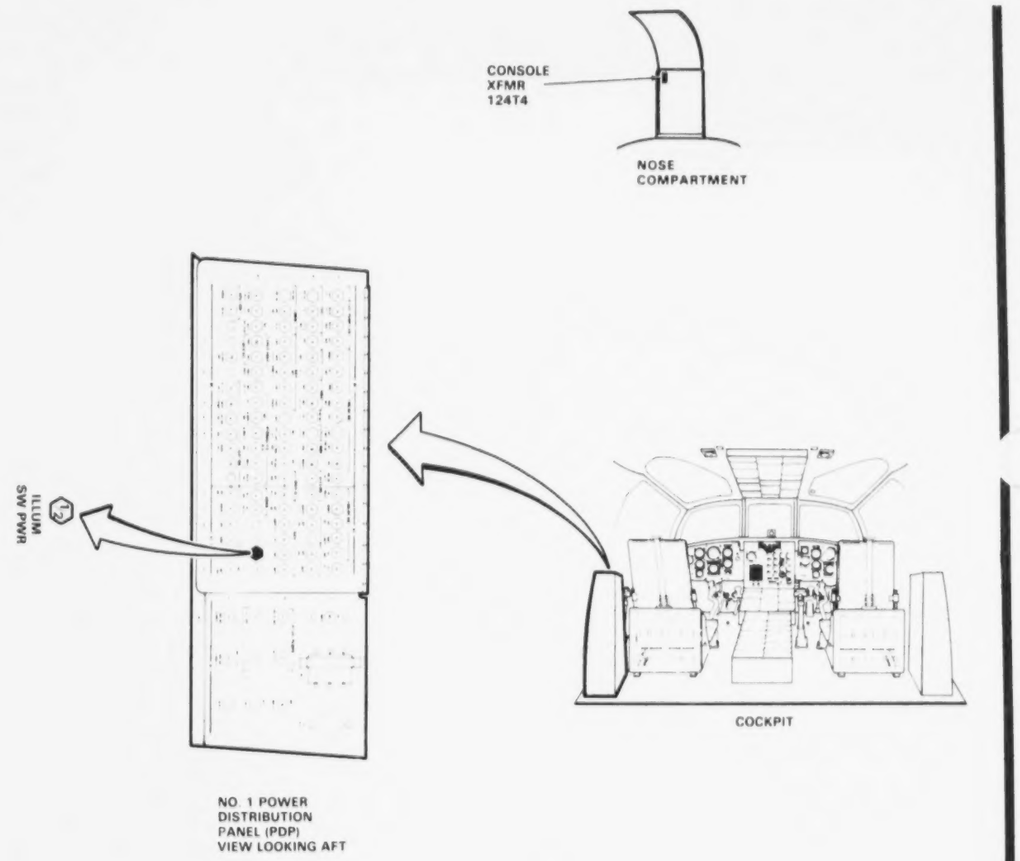
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off


DISCONNECT WIRE W557-744-22 FROM CONSOLE XFMR 124T1 115V TERM. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W557-744-22, W645-278-22, OR W550-183-22 BETWEEN CONSOLE XFMR 124T4 AND ILLUM SW PWR CB. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE WIRE W557-1113-22 FROM CONSOLE XFMR 124T4 TERM LV1. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W557-1113-22, W557-949-22, W557-940-22, W557-944-22, W557-942-22, W557-509-22, W557-508-22, OR W557-760-22 BETWEEN CONSOLE XFMR 124T4 AND LIGHTED SW PANELS IN CONSOLE. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE WIRE W557-1114-22 FROM TERM LV2 ON CONSOLE XFMR 124T4. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
REPLACE CONSOLE XFMR 124T4. REPEAT OP CK. DOES ILLUM SW PWR CB STAY CLOSED?
NO
REPLACE ILLUM SW PWR CB.
YES
LOCATE GROUND FAULT ON WIRE W557-1114-22 BETWEEN XFMR 124T4 AND TB7. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
FAULT CORRECTED.



END OF TASK

9-12.11 CONSOLE PANEL LIGHT OR LIGHTS NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

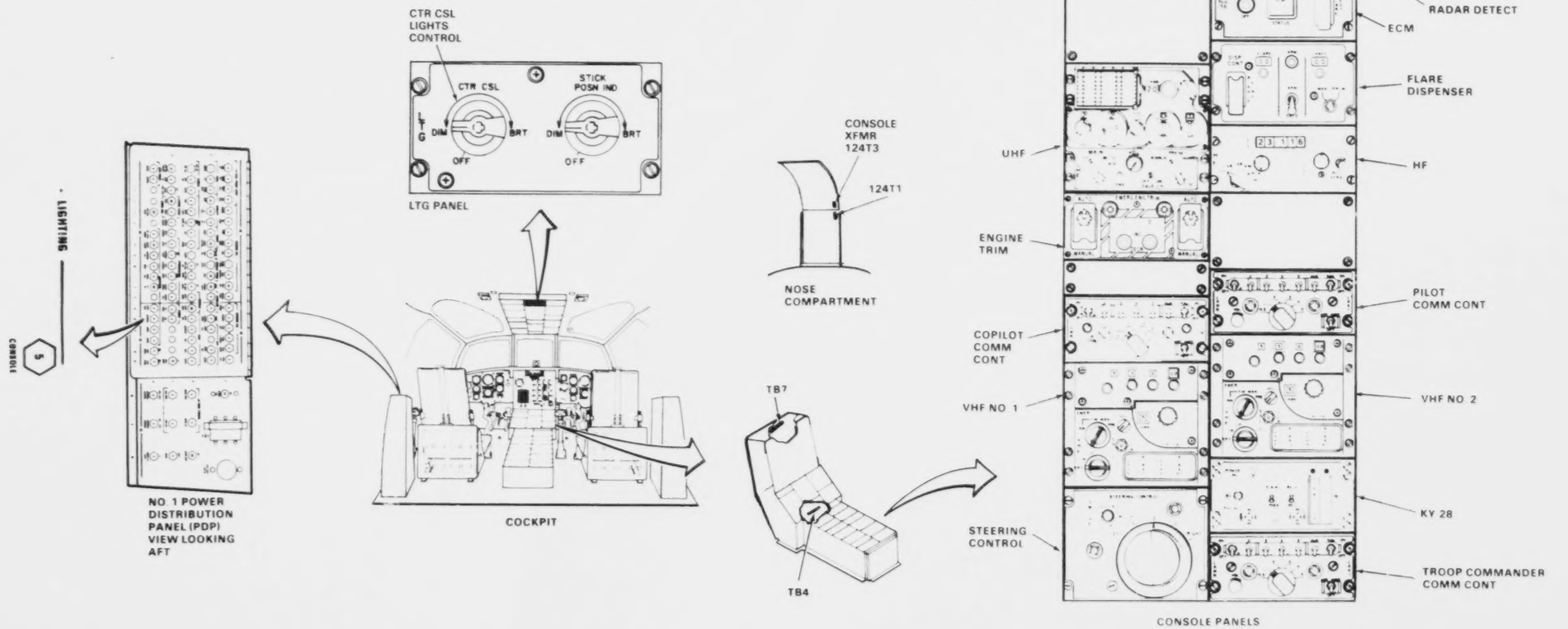
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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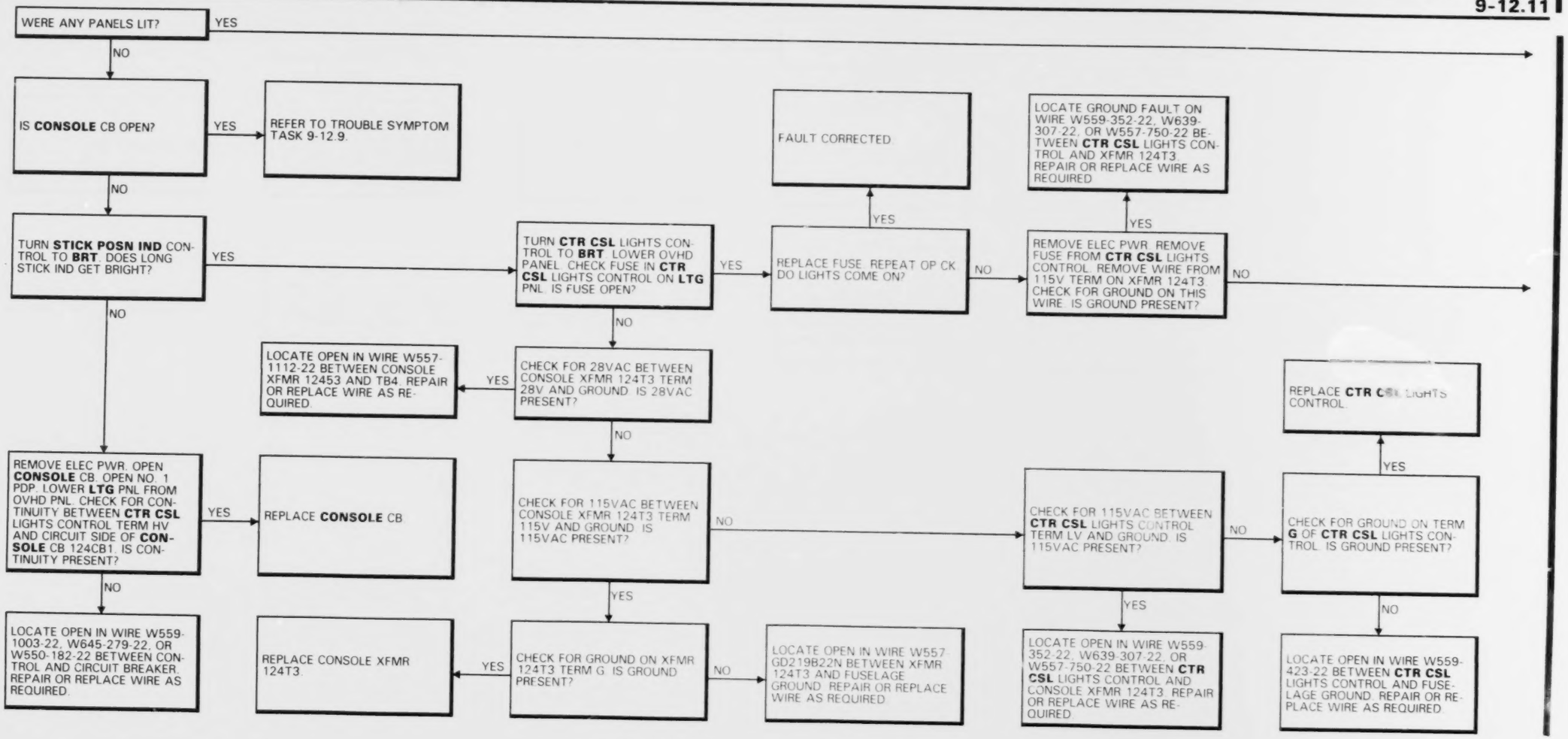
9-12.11 CONSOLE PANEL LIGHT OR LIGHTS NOT LIT (Continued)


WERE ANY PANELS LIT?
YES
NO
IS **CONSOLE** CB OPEN?
YES
REFER TO TROUBLE SYMPTOM TASK 9-12.9.
NO
TURN **STICK POSN IND** CONTROL TO **BRT**. DOES LONG STICK IND GET BRIGHT?
YES
NO
TURN **CTR CSL** LIGHTS CONTROL TO **BRT**. LOWER OVHD PANEL. CHECK FUSE IN **CTR CSL** LIGHTS CONTROL ON **LTG** PNL. IS FUSE OPEN?
YES
NO
REPLACE FUSE. REPEAT OP CK. DO LIGHTS COME ON?
NO
YES
FAULT CORRECTED.
REMOVE ELEC PWR. REMOVE FUSE FROM **CTR CSL** LIGHTS CONTROL. REMOVE WIRE FROM 115V TERM ON XFMR 124T3. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
YES
LOCATE GROUND FAULT ON WIRE W559-352-22, W639-307-22, OR W557-750-22 BETWEEN **CTR CSL** LIGHTS CONTROL AND XFMR 124T3. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR 28VAC BETWEEN CONSOLE XFMR 124T3 TERM 28V AND GROUND. IS 28VAC PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-1112-22 BETWEEN CONSOLE XFMR 12453 AND TB4. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR 115VAC BETWEEN CONSOLE XFMR 124T3 TERM 115V AND GROUND. IS 115VAC PRESENT?
NO
YES
CHECK FOR 115VAC BETWEEN **CTR CSL** LIGHTS CONTROL TERM LV AND GROUND. IS 115VAC PRESENT?
NO
YES
LOCATE OPEN IN WIRE W559-352-22, W639-307-22, OR W557-750-22 BETWEEN **CTR CSL** LIGHTS CONTROL AND CONSOLE XFMR 124T3. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR GROUND ON TERM G OF **CTR CSL** LIGHTS CONTROL. IS GROUND PRESENT?
YES
NO
REPLACE **CTR CSL** LIGHTS CONTROL.
LOCATE OPEN IN WIRE W559-423-22 BETWEEN **CTR CSL** LIGHTS CONTROL AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR GROUND ON XFMR 124T3 TERM G. IS GROUND PRESENT?
YES
NO
REPLACE CONSOLE XFMR 124T3.
LOCATE OPEN IN WIRE W557-GD219B22N BETWEEN XFMR 124T3 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELEC PWR. OPEN **CONSOLE** CB. OPEN NO. 1 PDP. LOWER **LTG** PNL FROM OVHD PNL. CHECK FOR CONTINUITY BETWEEN **CTR CSL** LIGHTS CONTROL TERM HV AND CIRCUIT SIDE OF **CONSOLE** CB 124CB1. IS CONTINUITY PRESENT?
YES
NO
REPLACE **CONSOLE** CB.
LOCATE OPEN IN WIRE W559-1003-22, W645-279-22, OR W550-182-22 BETWEEN CONTROL AND CIRCUIT BREAKER. REPAIR OR REPLACE WIRE AS REQUIRED.

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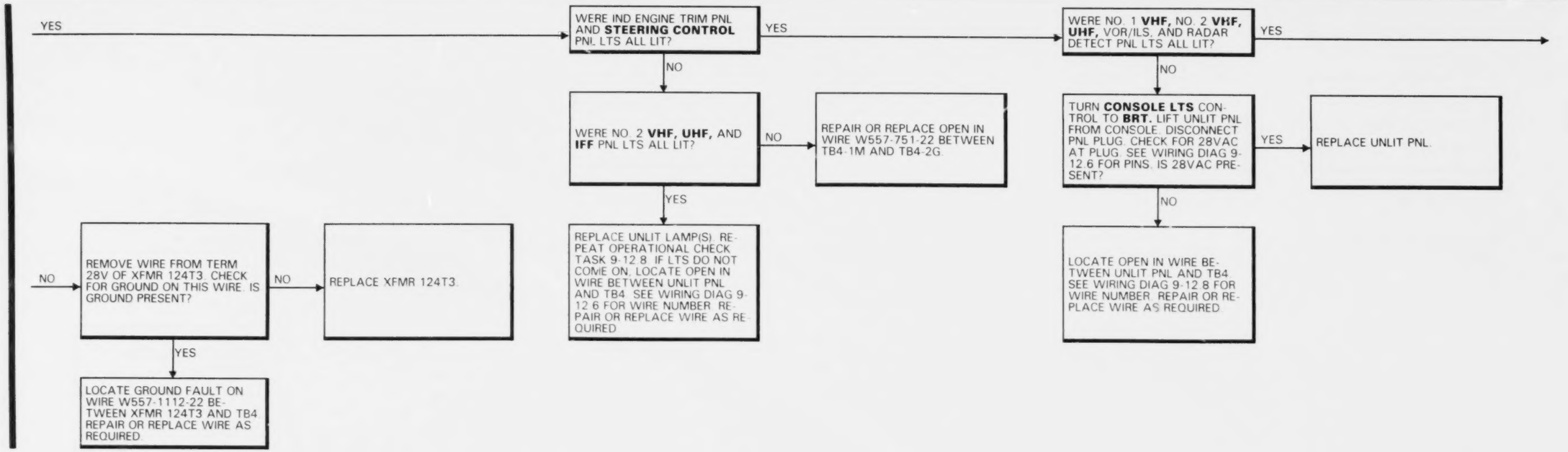
9-12.11 CONSOLE PANEL LIGHT OR LIGHTS NOT LIT (Continued)


YES
WERE IND ENGINE TRIM PNL AND **STEERING CONTROL** PNL LTS ALL LIT?
YES
WERE NO. 1 **VHF,** NO. 2 **VHF, UHF,** VOR/ILS, AND RADAR DETECT PNL LTS ALL LIT?
YES
NO
NO
WERE NO. 2 **VHF, UHF,** AND **IFF** PNL LTS ALL LIT?
NO
REPAIR OR REPLACE OPEN IN WIRE W557-751-22 BETWEEN TB4-1M AND TB4-2G.
TURN **CONSOLE LTS** CONTROL TO **BRT.** LIFT UNLIT PNL FROM CONSOLE. DISCONNECT PNL PLUG. CHECK FOR 28VAC AT PLUG. SEE WIRING DIAG 9-12.6 FOR PINS. IS 28VAC PRESENT?
YES
REPLACE UNLIT PNL.
YES
NO
NO
REMOVE WIRE FROM TERM 28V OF XFMR 124T3. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
REPLACE XFMR 124T3.
REPLACE UNLIT LAMP(S). REPEAT OPERATIONAL CHECK TASK 9-12.8. IF LTS DO NOT COME ON, LOCATE OPEN IN WIRE BETWEEN UNLIT PNL AND TB4. SEE WIRING DIAG 9-12.6 FOR WIRE NUMBER. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE OPEN IN WIRE BETWEEN UNLIT PNL AND TB4. SEE WIRING DIAG 9-12.8 FOR WIRE NUMBER. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W557-1112-22 BETWEEN XFMR 124T3 AND TB4. REPAIR OR REPLACE WIRE AS REQUIRED.

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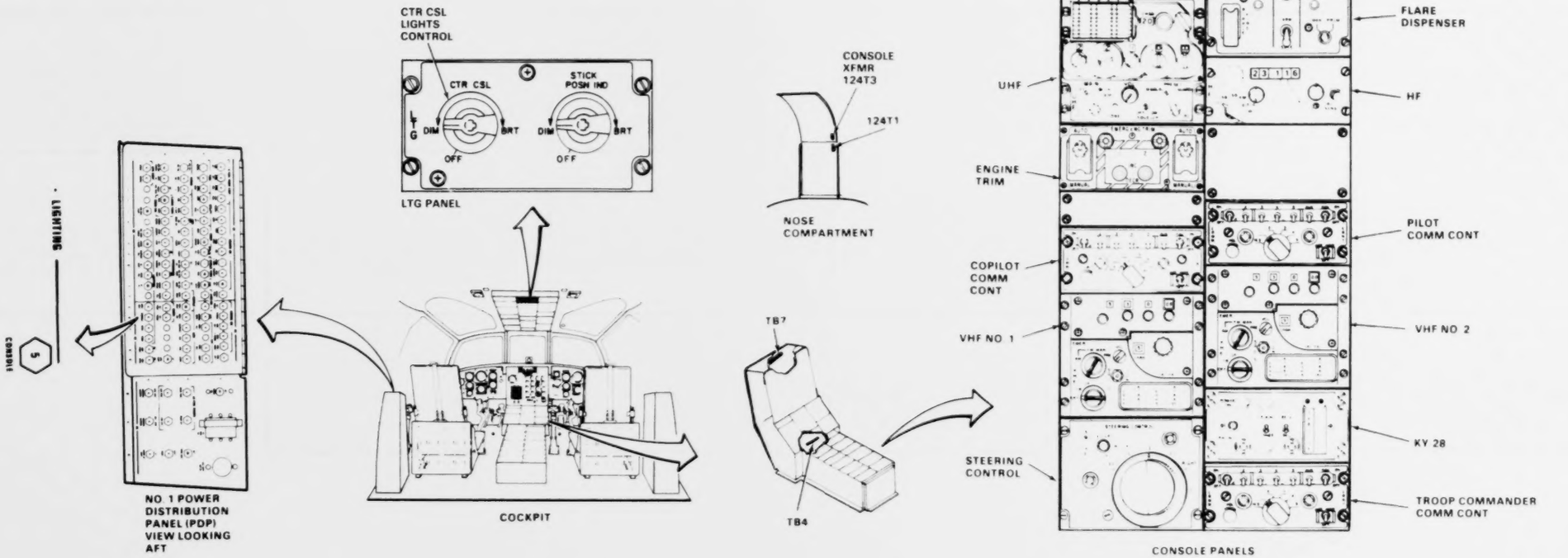

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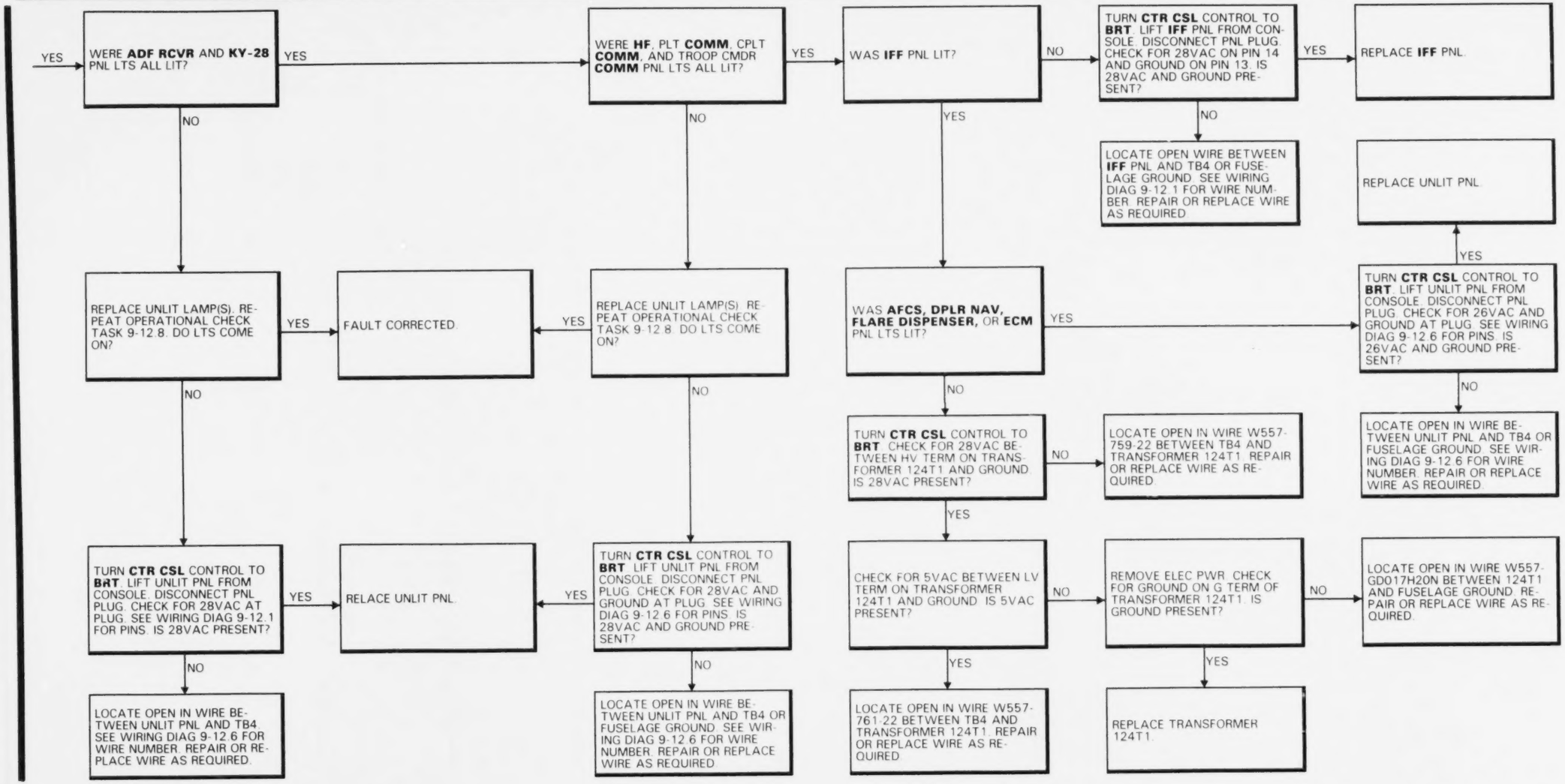
9-12.11 CONSOLE PANEL LIGHT OR LIGHTS NOT LIT (Continued)


YES
WERE **ADF RCVR** AND **KY-28** PNL LTS ALL LIT?
YES
WERE **HF**, PLT **COMM**, CPLT **COMM**, AND TROOP CMDR **COMM** PNL LTS ALL LIT?
YES
WAS **IFF** PNL LIT?
NO
TURN **CTR CSL** CONTROL TO **BRT**. LIFT **IFF** PNL FROM CONSOLE. DISCONNECT PNL PLUG. CHECK FOR 28VAC ON PIN 14 AND GROUND ON PIN 13. IS 28VAC AND GROUND PRESENT?
YES
REPLACE **IFF** PNL.
NO
LOCATE OPEN WIRE BETWEEN **IFF** PNL AND TB4 OR FUSELAGE GROUND. SEE WIRING DIAG 9-12.1 FOR WIRE NUMBER. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
NO
YES
REPLACE UNLIT LAMP(S). REPEAT OPERATIONAL CHECK TASK 9-12.8. DO LTS COME ON?
YES
FAULT CORRECTED.
YES
REPLACE UNLIT LAMP(S). REPEAT OPERATIONAL CHECK TASK 9-12.8. DO LTS COME ON?
WAS **AFCS, DPLR NAV, FLARE DISPENSER,** OR **ECM** PNL LTS LIT?
YES
TURN **CTR CSL** CONTROL TO **BRT**. LIFT UNLIT PNL FROM CONSOLE. DISCONNECT PNL PLUG. CHECK FOR 26VAC AND GROUND AT PLUG. SEE WIRING DIAG 9-12.6 FOR PINS. IS 26VAC AND GROUND PRESENT?
REPLACE UNLIT PNL.
YES
NO
NO
NO
TURN **CTR CSL** CONTROL TO **BRT**. CHECK FOR 28VAC BETWEEN HV TERM ON TRANSFORMER 124T1 AND GROUND IS 28VAC PRESENT?
NO
LOCATE OPEN IN WIRE W557-759-22 BETWEEN TB4 AND TRANSFORMER 124T1. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE OPEN IN WIRE BETWEEN UNLIT PNL AND TB4 OR FUSELAGE GROUND. SEE WIRING DIAG 9-12.6 FOR WIRE NUMBER. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
TURN **CTR CSL** CONTROL TO **BRT**. LIFT UNLIT PNL FROM CONSOLE. DISCONNECT PNL PLUG. CHECK FOR 28VAC AT PLUG. SEE WIRING DIAG 9-12.1 FOR PINS. IS 28VAC PRESENT?
YES
RELACE UNLIT PNL.
YES
TURN **CTR CSL** CONTROL TO **BRT**. LIFT UNLIT PNL FROM CONSOLE. DISCONNECT PNL PLUG. CHECK FOR 28VAC AND GROUND AT PLUG. SEE WIRING DIAG 9-12.6 FOR PINS. IS 28VAC AND GROUND PRESENT?
CHECK FOR 5VAC BETWEEN LV TERM ON TRANSFORMER 124T1 AND GROUND. IS 5VAC PRESENT?
NO
REMOVE ELEC PWR. CHECK FOR GROUND ON G TERM OF TRANSFORMER 124T1. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W557-GD017H20N BETWEEN 124T1 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE BETWEEN UNLIT PNL AND TB4 OR FUSELAGE GROUND. SEE WIRING DIAG 9-12.6 FOR WIRE NUMBER. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE OPEN IN WIRE W557-761-22 BETWEEN TB4 AND TRANSFORMER 124T1. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE TRANSFORMER 124T1.

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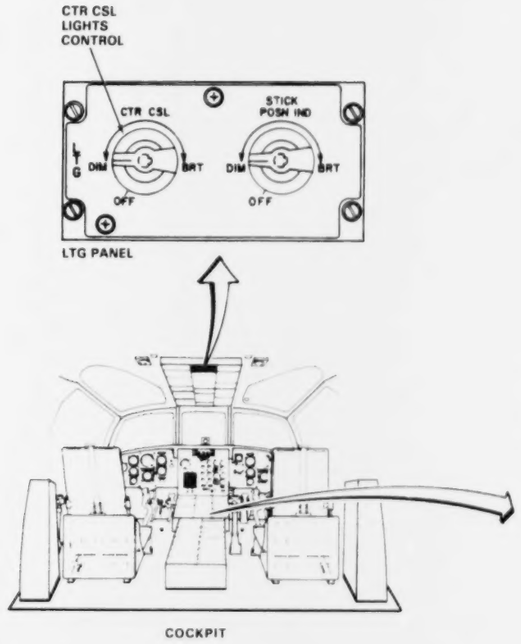

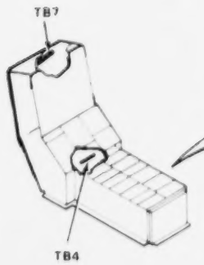

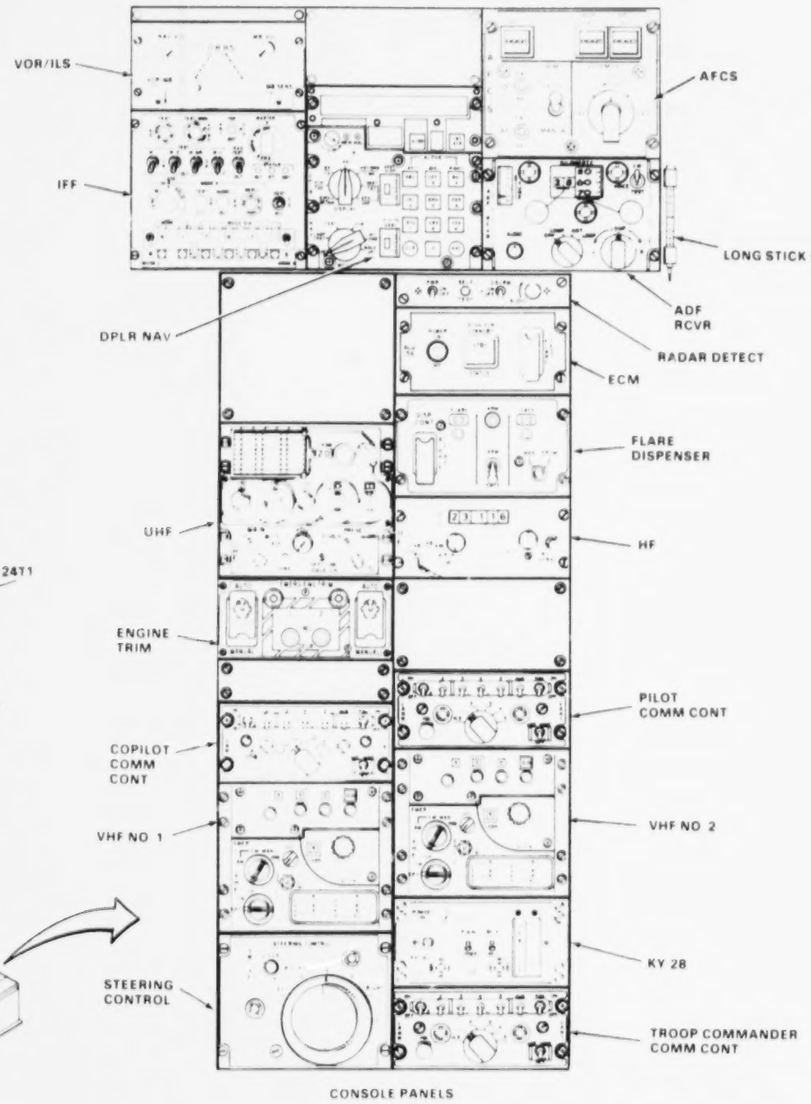

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END OF TASK

9-12.12 LONGITUDINAL STICK POSITION INDICATOR NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

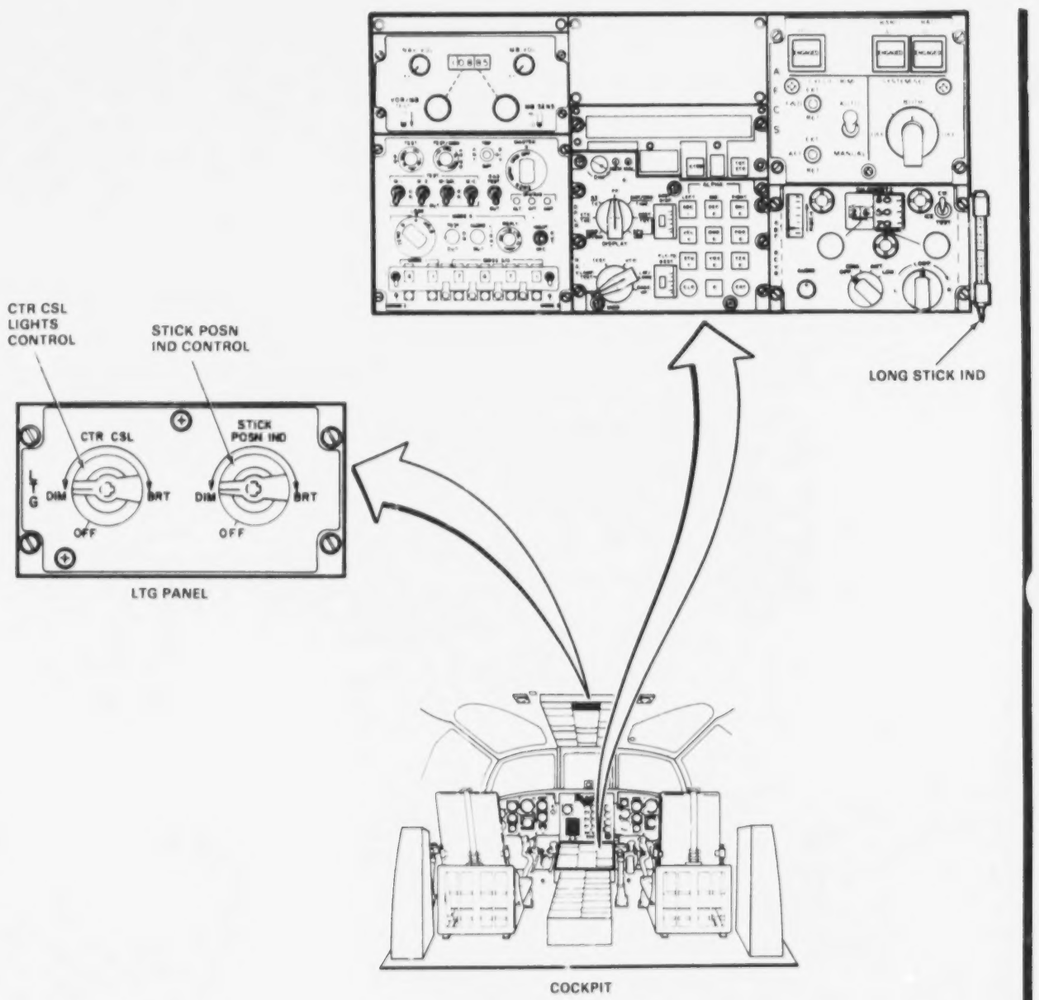
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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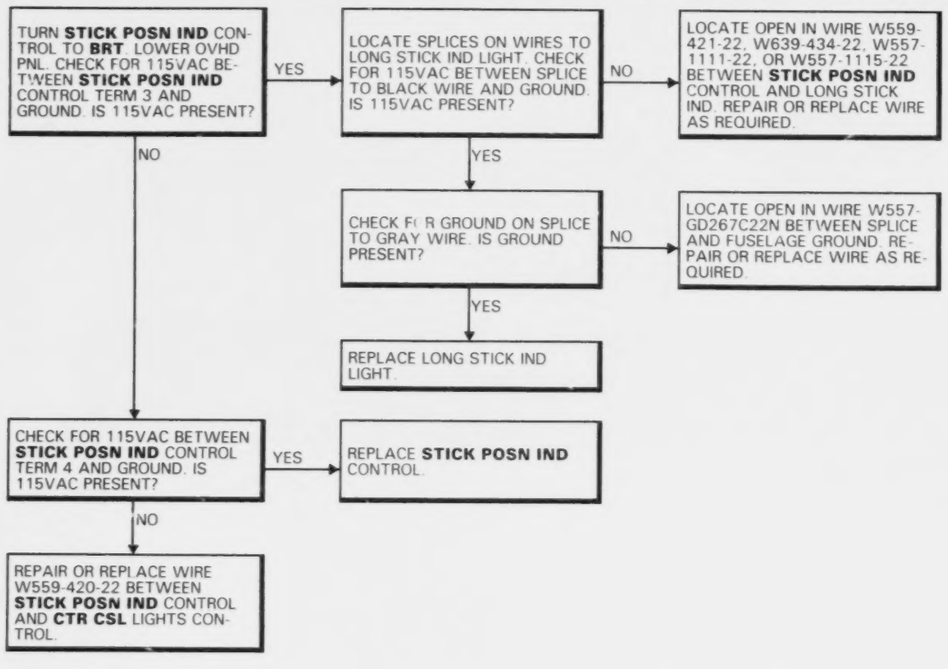
9-12.12 LONGITUDINAL STICK POSITION INDICATOR NOT LIT (Continued)


TURN **STICK POSN IND** CONTROL TO **BRT**. LOWER OVHD PNL. CHECK FOR 115VAC BETWEEN **STICK POSN IND** CONTROL TERM 3 AND GROUND. IS 115VAC PRESENT?
YES
LOCATE SPLICES ON WIRES TO LONG STICK IND LIGHT. CHECK FOR 115VAC BETWEEN SPLICE TO BLACK WIRE AND GROUND. IS 115VAC PRESENT?
NO
LOCATE OPEN IN WIRE W559-421-22, W639-434-22, W557-1111-22, OR W557-1115-22 BETWEEN **STICK POSN IND** CONTROL AND LONG STICK IND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR GROUND ON SPLICE TO GRAY WIRE. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W557-GD267C22N BETWEEN SPLICE AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE LONG STICK IND LIGHT.
NO
CHECK FOR 115VAC BETWEEN **STICK POSN IND** CONTROL TERM 4 AND GROUND. IS 115VAC PRESENT?
YES
REPLACE **STICK POSN IND** CONTROL.
NO
REPAIR OR REPLACE WIRE W559-420-22 BETWEEN **STICK POSN IND** CONTROL AND **CTR CSL** LIGHTS CONTROL.

END OF TASK

9-12.13 BARO ALT SWITCH CAPTION DOES NOT LIGHT BRIGHT WHEN PRESSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

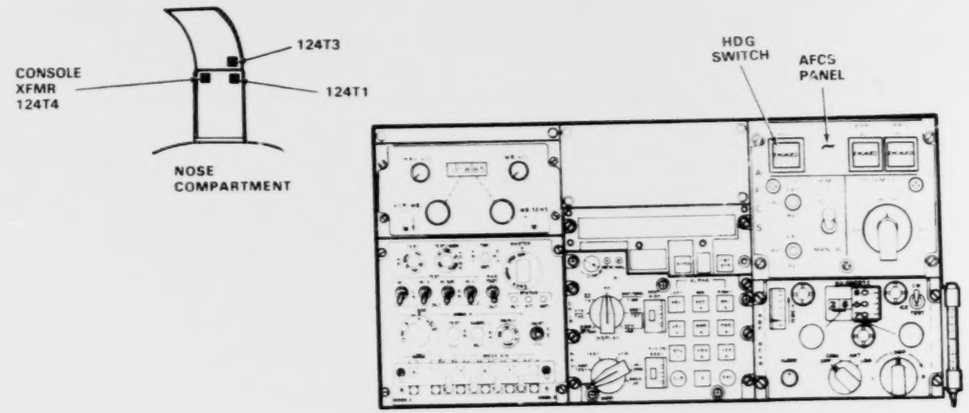
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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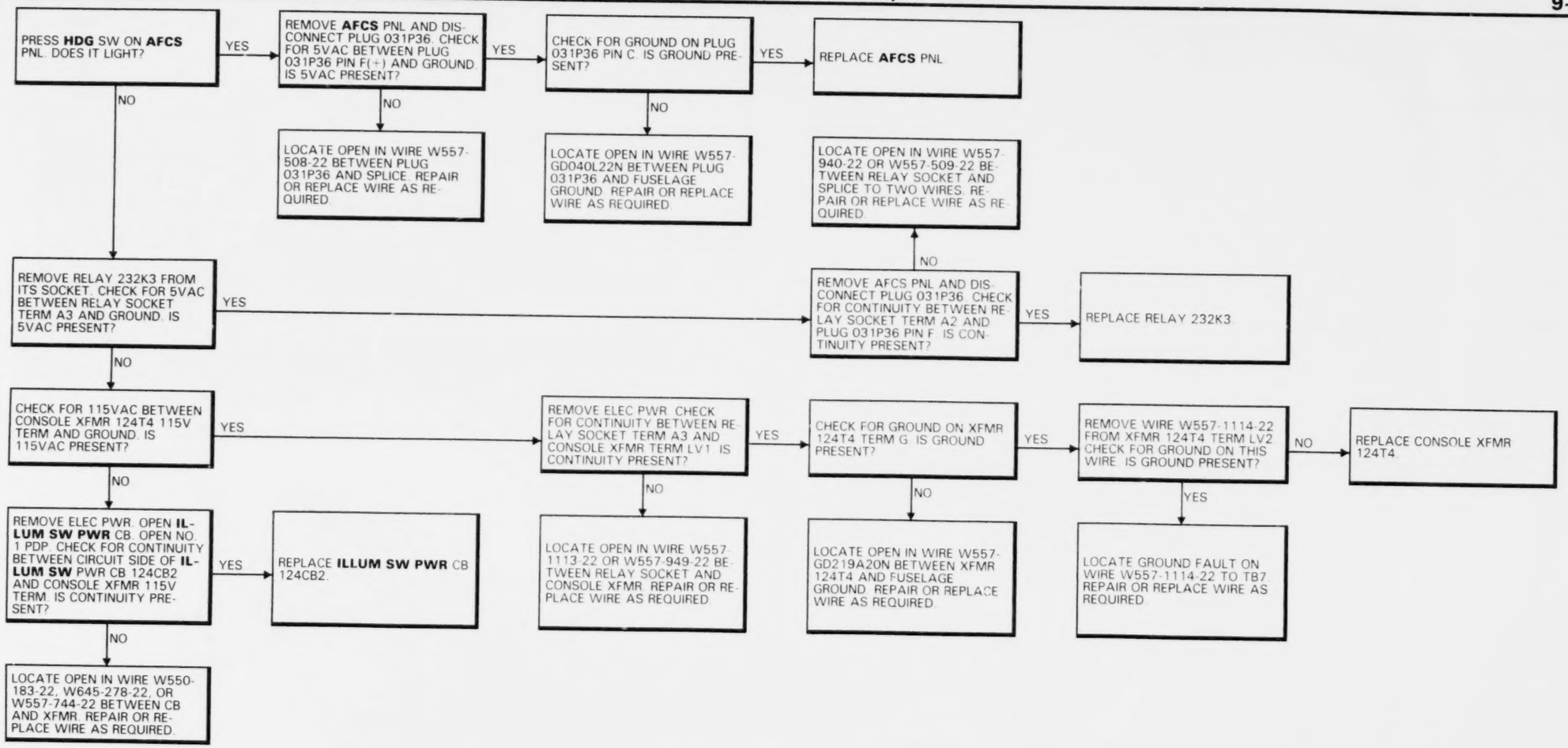
9-12.13 BARO ALT SWITCH CAPTION DOES NOT LIGHT BRIGHT WHEN PRESSED (Continued)


PRESS **HDG** SW ON **AFCS** PNL. DOES IT LIGHT?
YES
REMOVE **AFCS** PNL AND DISCONNECT PLUG 031P36. CHECK FOR 5VAC BETWEEN PLUG 031P36 PIN F(+) AND GROUND. IS 5VAC PRESENT?
YES
CHECK FOR GROUND ON PLUG 031P36 PIN C. IS GROUND PRESENT?
YES
REPLACE **AFCS** PNL.
NO
LOCATE OPEN IN WIRE W557-508-22 BETWEEN PLUG 031P36 AND SPLICE. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W557-GD040L22N BETWEEN PLUG 031P36 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W557-940-22 OR W557-509-22 BETWEEN RELAY SOCKET AND SPLICE TO TWO WIRES. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE RELAY 232K3 FROM ITS SOCKET. CHECK FOR 5VAC BETWEEN RELAY SOCKET TERM A3 AND GROUND. IS 5VAC PRESENT?
YES
REMOVE AFCS PNL AND DISCONNECT PLUG 031P36. CHECK FOR CONTINUITY BETWEEN RELAY SOCKET TERM A2 AND PLUG 031P36 PIN F. IS CONTINUITY PRESENT?
YES
REPLACE RELAY 232K3.
NO
CHECK FOR 115VAC BETWEEN CONSOLE XFMR 124T4 115V TERM AND GROUND. IS 115VAC PRESENT?
YES
REMOVE ELEC PWR. CHECK FOR CONTINUITY BETWEEN RELAY SOCKET TERM A3 AND CONSOLE XFMR TERM LV1. IS CONTINUITY PRESENT?
YES
CHECK FOR GROUND ON XFMR 124T4 TERM G. IS GROUND PRESENT?
YES
REMOVE WIRE W557-1114-22 FROM XFMR 124T4 TERM LV2. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
REPLACE CONSOLE XFMR 124T4.
NO
REMOVE ELEC PWR. OPEN **ILLUM SW PWR** CB. OPEN NO. 1 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF **ILLUM SW** PWR CB 124CB2 AND CONSOLE XFMR 115V TERM. IS CONTINUITY PRESENT?
YES
REPLACE **ILLUM SW PWR** CB 124CB2.
NO
LOCATE OPEN IN WIRE W550-183-22, W645-278-22, OR W557-744-22 BETWEEN CB AND XFMR. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W557-1113-22 OR W557-949-22 BETWEEN RELAY SOCKET AND CONSOLE XFMR. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE OPEN IN WIRE W557-GD219A20N BETWEEN XFMR 124T4 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W557-1114-22 TO TB7. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-12.14 RAD ALT SWITCH CAPTION DOES NOT LIGHT DIM WHEN PRESSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

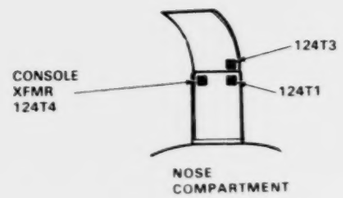
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

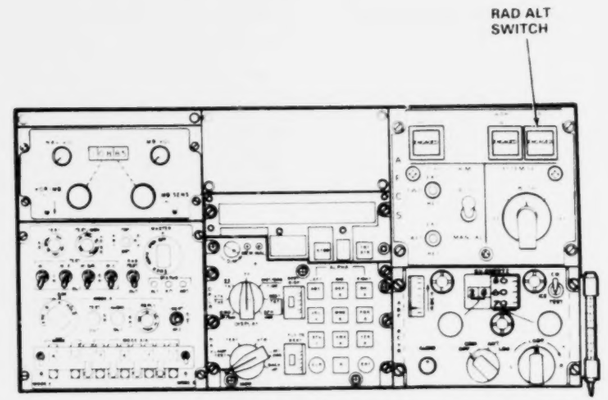
Materials:
None

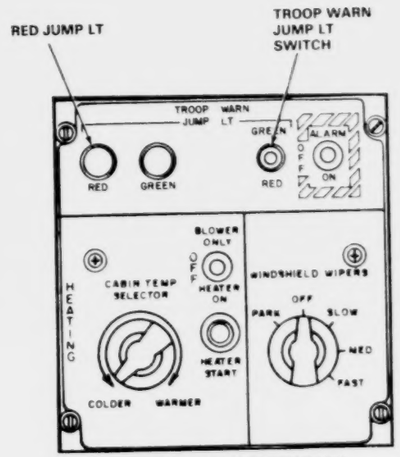
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

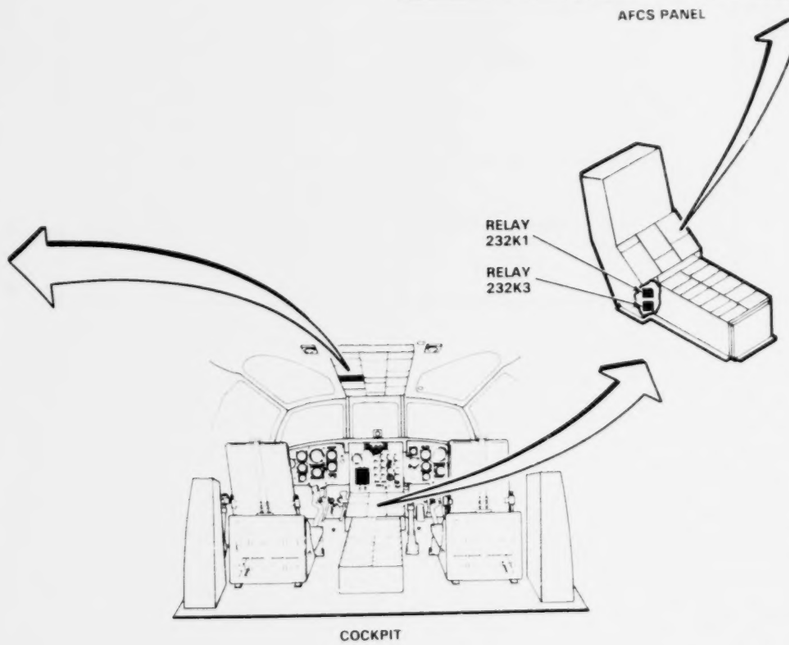
Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off







TROOP WARN/HEATING PANEL



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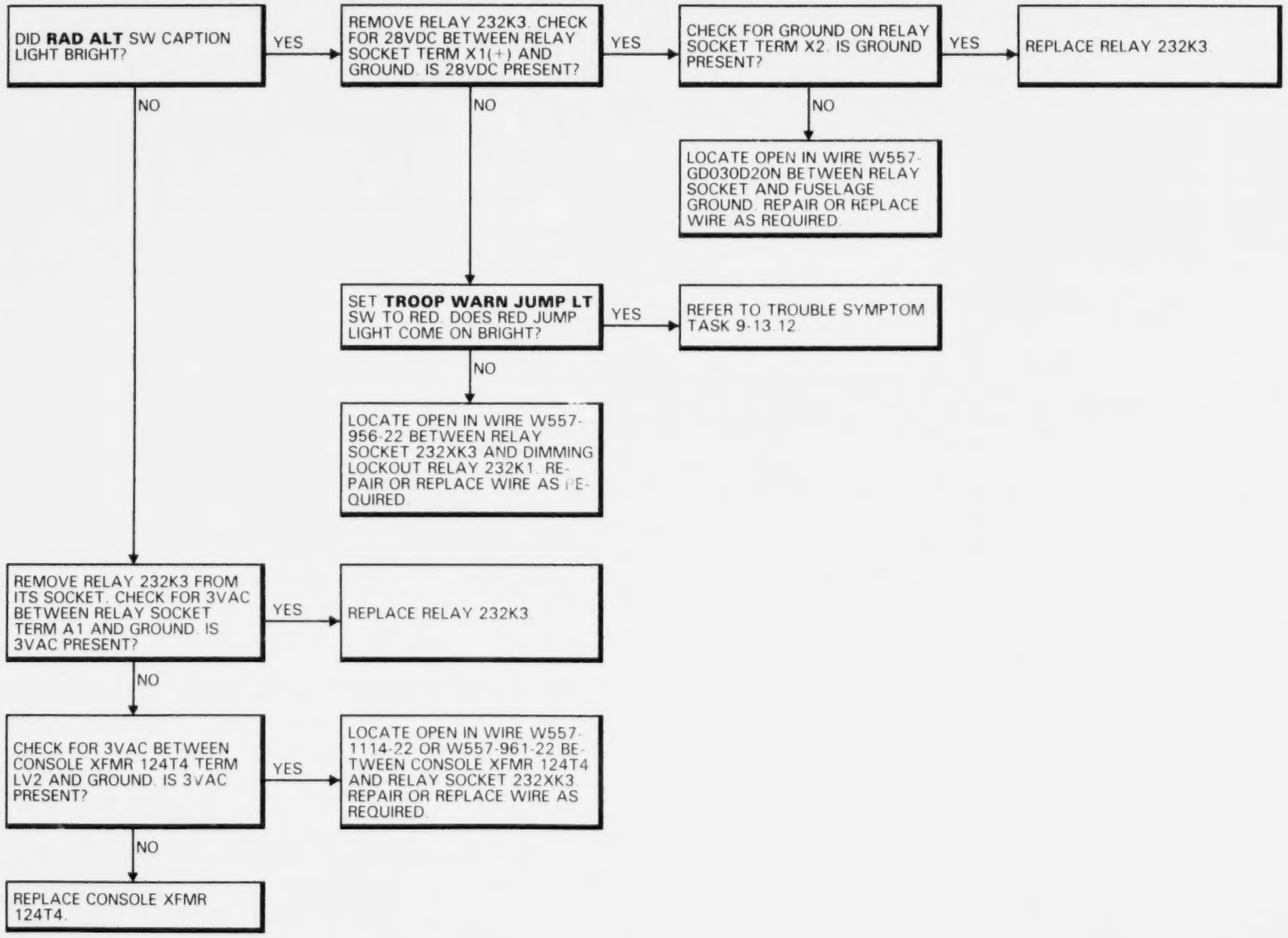
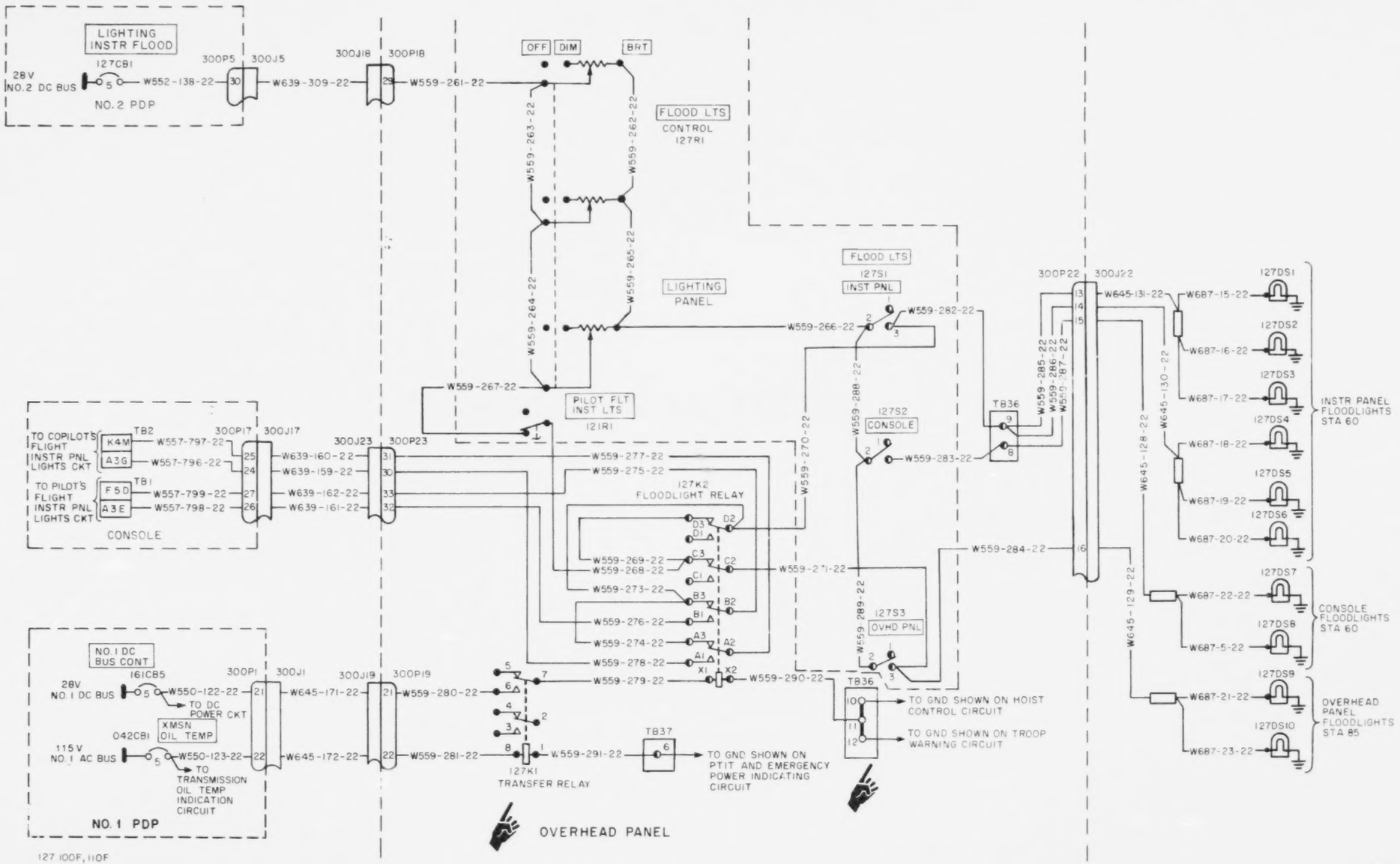
9-12.14 RAD ALT SWITCH CAPTION DOES NOT LIGHT DIM WHEN PRESSED (Continued)


DID **RAD ALT** SW CAPTION LIGHT BRIGHT?
YES
REMOVE RELAY 232K3. CHECK FOR 28VDC BETWEEN RELAY SOCKET TERM X1(+) AND GROUND. IS 28VDC PRESENT?
YES
CHECK FOR GROUND ON RELAY SOCKET TERM X2. IS GROUND PRESENT?
YES
REPLACE RELAY 232K3.
NO
LOCATE OPEN IN WIRE W557-GD030D20N BETWEEN RELAY SOCKET AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
SET **TROOP WARN JUMP LT** SW TO RED. DOES RED JUMP LIGHT COME ON BRIGHT?
YES
REFER TO TROUBLE SYMPTOM TASK 9-13.12.
NO
LOCATE OPEN IN WIRE W557-956-22 BETWEEN RELAY SOCKET 232XK3 AND DIMMING LOCKOUT RELAY 232K1. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE RELAY 232K3 FROM ITS SOCKET. CHECK FOR 3VAC BETWEEN RELAY SOCKET TERM A1 AND GROUND. IS 3VAC PRESENT?
YES
REPLACE RELAY 232K3.
NO
CHECK FOR 3VAC BETWEEN CONSOLE XFMR 124T4 TERM LV2 AND GROUND. IS 3VAC PRESENT?
YES
LOCATE OPEN IN WIRE W557-1114-22 OR W557-961-22 BETWEEN CONSOLE XFMR 124T4 AND RELAY SOCKET 232XK3. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE CONSOLE XFMR 124T4.

END OF TASK

9-13 SECONDARY COCKPIT LIGHT


LIGHTING INSTR FLOOD
127CB1
28V NO.2 DC BUS
NO.2 PDP
300P5
300J5
300J18
300P18
W552-138-22
W639-309-22
W559-261-22
OFF
DIM
BRT
FLOOD LTS CONTROL 127R1
W559-263-22
W559-262-22
W559-265-22
W559-264-22
LIGHTING PANEL
FLOOD LTS 127S1 INST PNL
W559-266-22
W559-282-22
W559-267-22
PILOT FLT INST LTS 121R1
W559-270-22
W559-288-22
127S2 CONSOLE
W559-283-22
TB36
W559-284-22
300P22
300J22
W645-131-22
W687-15-22
127DS1
W687-16-22
127DS2
W687-17-22
127DS3
W687-18-22
127DS4
W687-19-22
127DS5
W687-20-22
127DS6
INSTR PANEL FLOODLIGHTS STA 60
W645-130-22
W645-128-22
W645-129-22
W687-22-22
127DS7
W687-5-22
127DS8
CONSOLE FLOODLIGHTS STA 60
W687-21-22
127DS9
W687-23-22
127DS10
OVERHEAD PANEL FLOODLIGHTS STA 85
TO COPILOT'S FLIGHT INSTR PNL LIGHTS CKT
K4M
A3G
TB2
W557-797-22
W557-796-22
300P17
300J17
TO PILOT'S FLIGHT INSTR PNL LIGHTS CKT
F5D
A3E
TB1
W557-799-22
W557-798-22
CONSOLE
300J23
300P23
W639-160-22
W639-159-22
W639-162-22
W639-161-22
W559-277-22
W559-275-22
127K2 FLOODLIGHT RELAY
W559-269-22
W559-268-22
W559-273-22
W559-276-22
W559-274-22
W559-278-22
W559-279-22
W559-271-22
W559-289-22
127S3 OVHD PNL
W559-290-22
TB36
TO GND SHOWN ON HOIST CONTROL CIRCUIT
TO GND SHOWN ON TROOP WARNING CIRCUIT
NO.1 DC BUS CONT
161CB5
28V NO.1 DC BUS
TO DC POWER CKT
300P1
300J1
300J19
300P19
W550-122-22
W645-171-22
W559-280-22
XMSN OIL TEMP
042CB1
115V NO.1 AC BUS
W550-123-22
TO TRANSMISSION OIL TEMP INDICATION CIRCUIT
W645-172-22
W559-281-22
127K1 TRANSFER RELAY
W559-291-22
TB37
TO GND SHOWN ON PTIT AND EMERGENCY POWER INDICATING CIRCUIT
NO.1 PDP
OVERHEAD PANEL
127.100F, 110F
518

9-13.2 SECONDARY COCKPIT LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

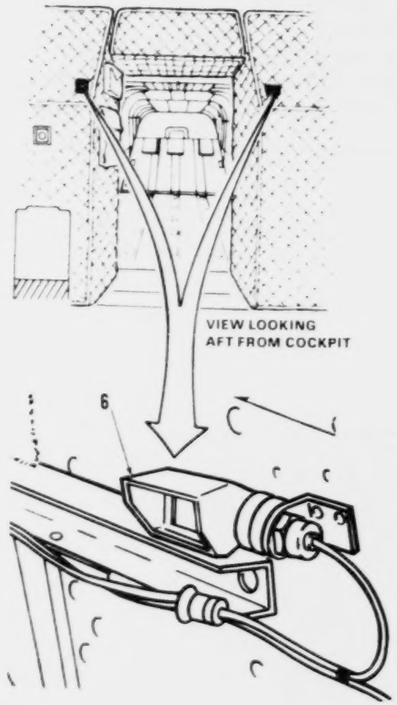
Personnel Required:
Aircraft Electrician

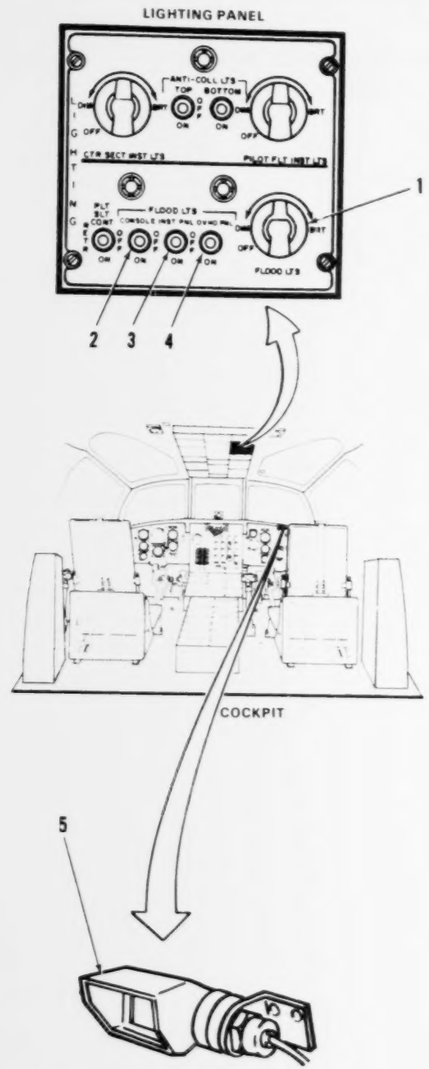
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Rotate FLOOD LTS DIM BRT control (1) from OFF to BRT and back to OFF.**	FLOOD LTS DIM BRT control (1) shall rotate freely and smoothly. If control is loose or binding, replace it.
2. **Check CONSOLE FLOOD LTS switch (2).**	If switch (2) is loose or damaged, tighten or replace it as required.
3. **Check INST PNL FLOOD LTS switch (3).**	If switch (3) is loose or damaged, tighten or replace it as required.
4. **Check OVHD PNL FLOOD LTS switch (4).**	If switch (4) is loose or damaged, tighten or replace it as required.
5. **Check flood lights (5) on instrument panel and center panel.**	If any flood lights (5) is loose or damaged, tighten or replace it as required.
6. **Check flood lights (6)** behind pilot's and copilot's seat.	If either flood light (6) is loose or damaged, tighten or replace it as required.

FOLLOW-ON MAINTENANCE:
None





TYPICAL COCKPIT INSTRUMENT PANEL
INSTALLATION 8 PLACES

DI45-10946-SPA

END OF TASK

9-13.3 SECONDARY COCKPIT LIGHTS OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
Without 17

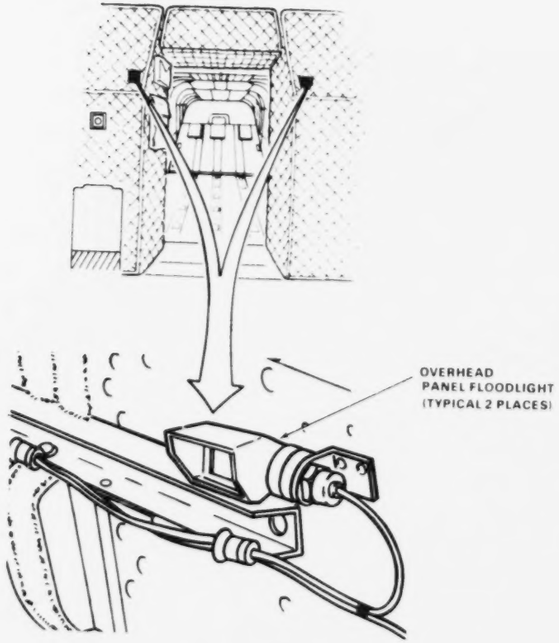
Tools:
None

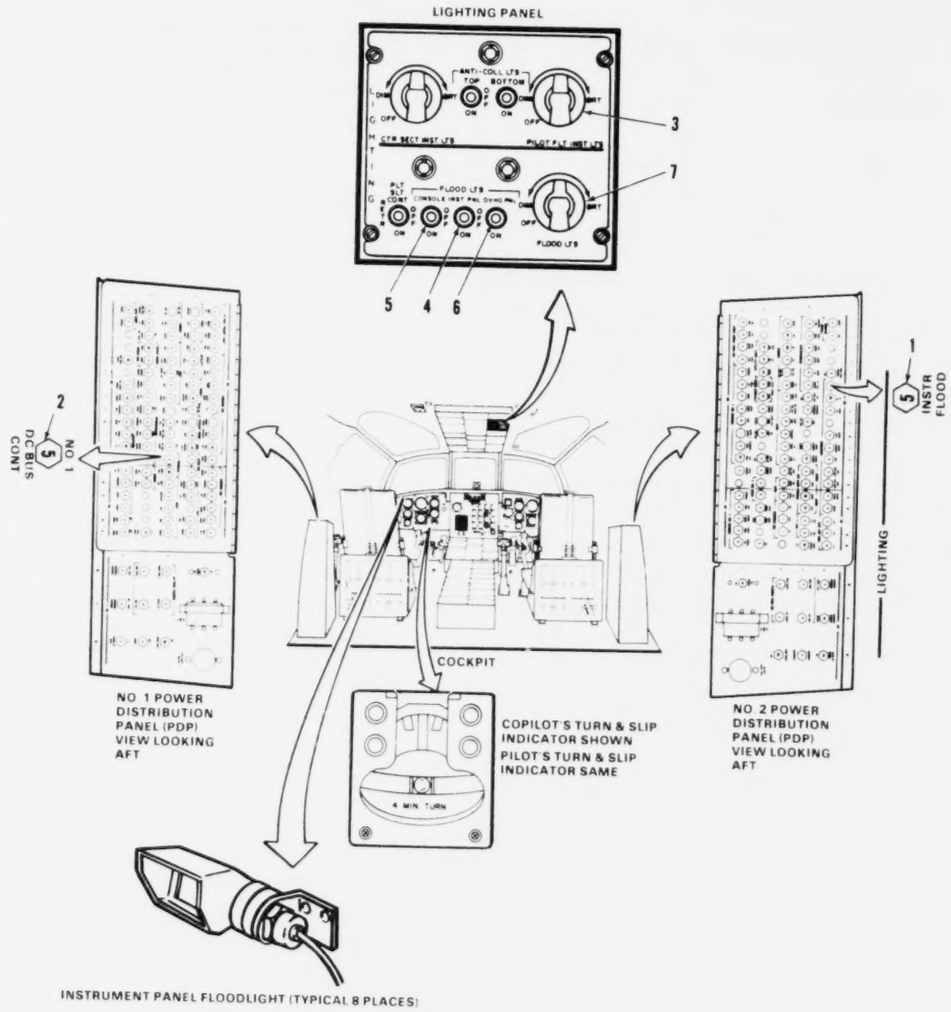
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Visual Check of Secondary Cockpit Lights Performed (Task 9-13.2)





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9-13.3 SECONDARY COCKPIT LIGHTS OPERATIONAL CHECK (Continued)

TASK	RESULT
1. **Check that INSTR FLOOD LIGHTING circuit breaker (1)** is **closed.**	If circuit breaker (1) is open, close it. If it opens again, go to task 9-13.4.
2. **Check** that **DC BUS CONT NO. 1 circuit breaker (2)** is **closed.**	If circuit breaker (2) is open, close it. If it opens again, go to task 9-13.5.
3. **Set PILOT FLT INST LTS control (3) to OFF.**	
4. **Set INST PNL CONSOLE, and OVHD PNL FLOOD LTS switches (4, 5, and 6)** to **ON.**	
5. **Turn FLOOD LTS control (7) from OFF through DIM to BRT.**	Ten flood lights, eight on instrument panel and two behind pilot's seat shall come on dim and then increase in brightness. If flood lights do not come on go to task 9-13.6. If flood lights do not increase in brightness, replace FLOOD LTS control (7).
6. **Set INST PNL FLOOD LTS switch (4) to OFF.**	Six flood lights on instrument panel shall go out. If flood lights do not go out, go to task 9-13.7.
7. **Set CONSOLE FLOOD LTS switch (5) to OFF.**	Two flood lights over center panel shall go out. If flood lights do not go out, replace switch (5).
8. **Set OVHD PNL FLOOD LTS switch (6) to OFF.**	Two flood lights behind pilot's and copilot's seat shall go out. If flood lights do not go out, replace switch (6).
9. **Open NO. 1 DC BUS CONT circuit breaker (2). Set INST PNL switch (4) to ON.**	Six flood lights on instrument panel and pilot's and copilot's turn and slip indicators (8) lights shall come on. If flood lights and pilot's and copilot's turn and slip lights do not come on, go to task 9-13.8.
10. **Set INST PNL switch (4) to OFF.**	Flood lights and pilot's and copilot's turn and slip indicator (8) lights shall go out. If flood lights and indicator lights do not go out, replace switch (4).
11. **Turn PILOT FLT INST LTS control (3) to BRT.**	Overhead panel flood lights, instrument panel flood lights, and pilot's and copilot's turn and slip indicator lights shall come on. If not, go to task 9-13.9.
12. **Turn PILOT FLT INST LTS control (3) to OFF.**	Flood lights and indicator lights shall go out. If not replace PILOT FLT INST LTS control (3).
13. **Close NO. 1 DC BUS CONT circuit breaker (2).**	

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23:
Battery Off
Electrical Power Off
Hydraulic Power Off

END OF TASK

9-13.4 INSTR FLOOD LIGHTING CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

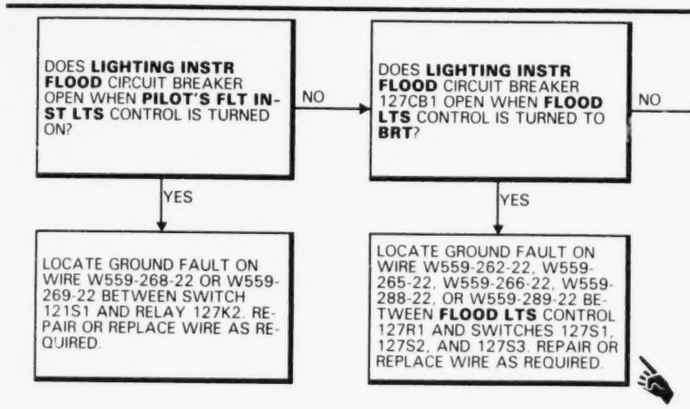
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

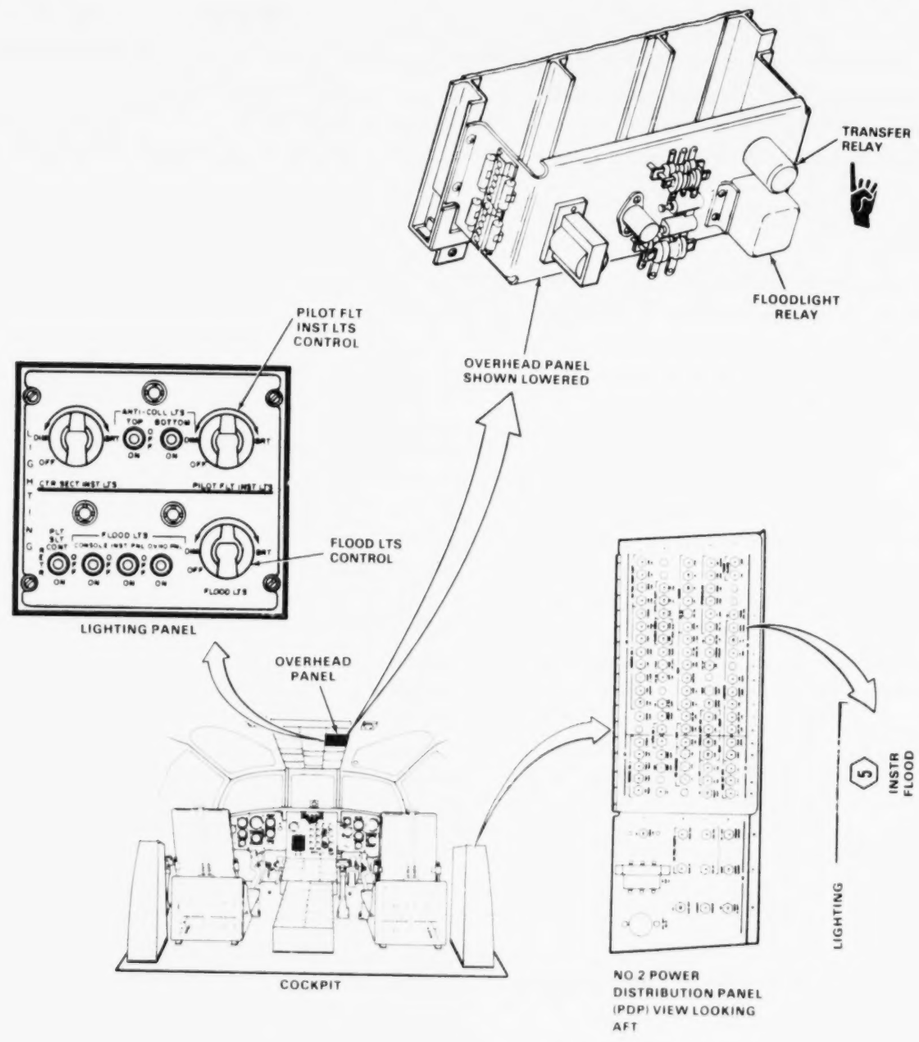
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off


DOES **LIGHTING INSTR FLOOD** CIRCUIT BREAKER OPEN WHEN **PILOT'S FLT INST LTS** CONTROL IS TURNED ON?
NO
DOES **LIGHTING INSTR FLOOD** CIRCUIT BREAKER 127CB1 OPEN WHEN **FLOOD LTS** CONTROL IS TURNED TO **BRT**?
NO
LOCATE GROUND FAULT ON WIRE W552-138-22, W639-309-22, W559-261-22, W559-263-22, W559-264-22, OR W559-267-22 BETWEEN CB 127CB1 AND **FLOOD LTS** CONTROL AND **PILOT FLT INSTR LTS** CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W559-268-22 OR W559-269-22 BETWEEN SWITCH 121S1 AND RELAY 127K2. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE W559-262-22, W559-265-22, W559-266-22, W559-288-22, OR W559-289-22 BETWEEN **FLOOD LTS** CONTROL 127R1 AND SWITCHES 127S1, 127S2, AND 127S3. REPAIR OR REPLACE WIRE AS REQUIRED.



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END OF TASK

9-13.5 NO. 1 DC BUS CONTROL CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off

OPEN **XMSN OIL TEMP** CB. CLOSE **NO. 1 DC BUS CONT** CB. DOES **NO. 1 DC BUS CONT** CB STAY CLOSED?

YES → CLOSE **XMSN OIL TEMP** CB. LOCATE GROUND FAULT ON WIRE W559-279-22 BETWEEN TRANSFER RELAY AND FLOODLIGHT RELAY. REPAIR OR REPLACE WIRE AS REQUIRED.

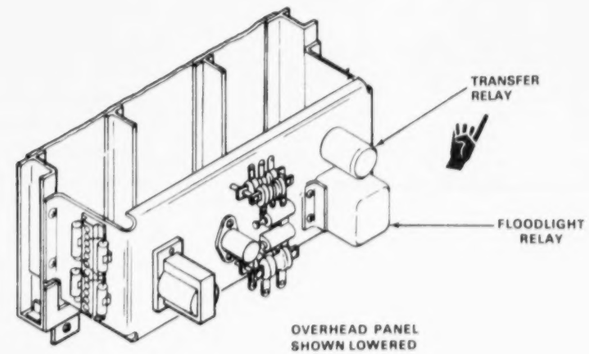
NO ↓

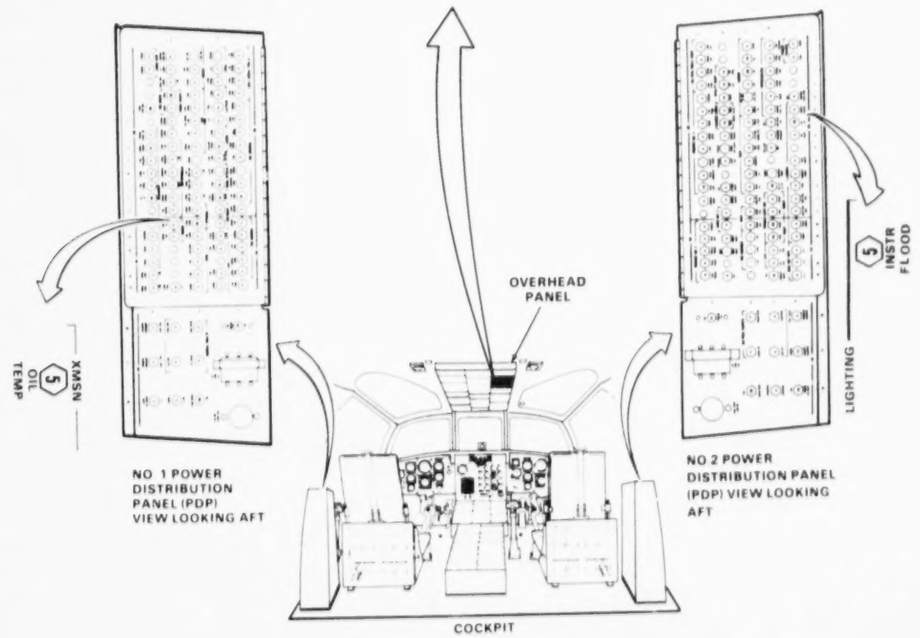
CLOSE **XMSN OIL TEMP** CB 042CB1. REMOVE ELEC PWR. OPEN NO. 1 PDP. REMOVE WIRES FROM CIRCUIT SIDE OF **NO. 1 DC BUS CONT** CB 161CB5. CHECK FOR GROUND ON WIRE W550-122-22. IS GROUND PRESENT?

YES → LOCATE GROUND FAULT ON WIRE W550-122-22, W645-171-22, OR W559-280-22 BETWEEN CB 161CB5 AND TRANSFER RELAY. REPAIR OR REPLACE WIRE AS REQUIRED.

NO ↓

REFER TO TROUBLE SYMPTOM TASK 9-1.4.





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END OF TASK

9-13.6 INSTR PANEL, CONSOLE, OR OVERHEAD PANEL FLOOD LIGHTS WILL NOT COME ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

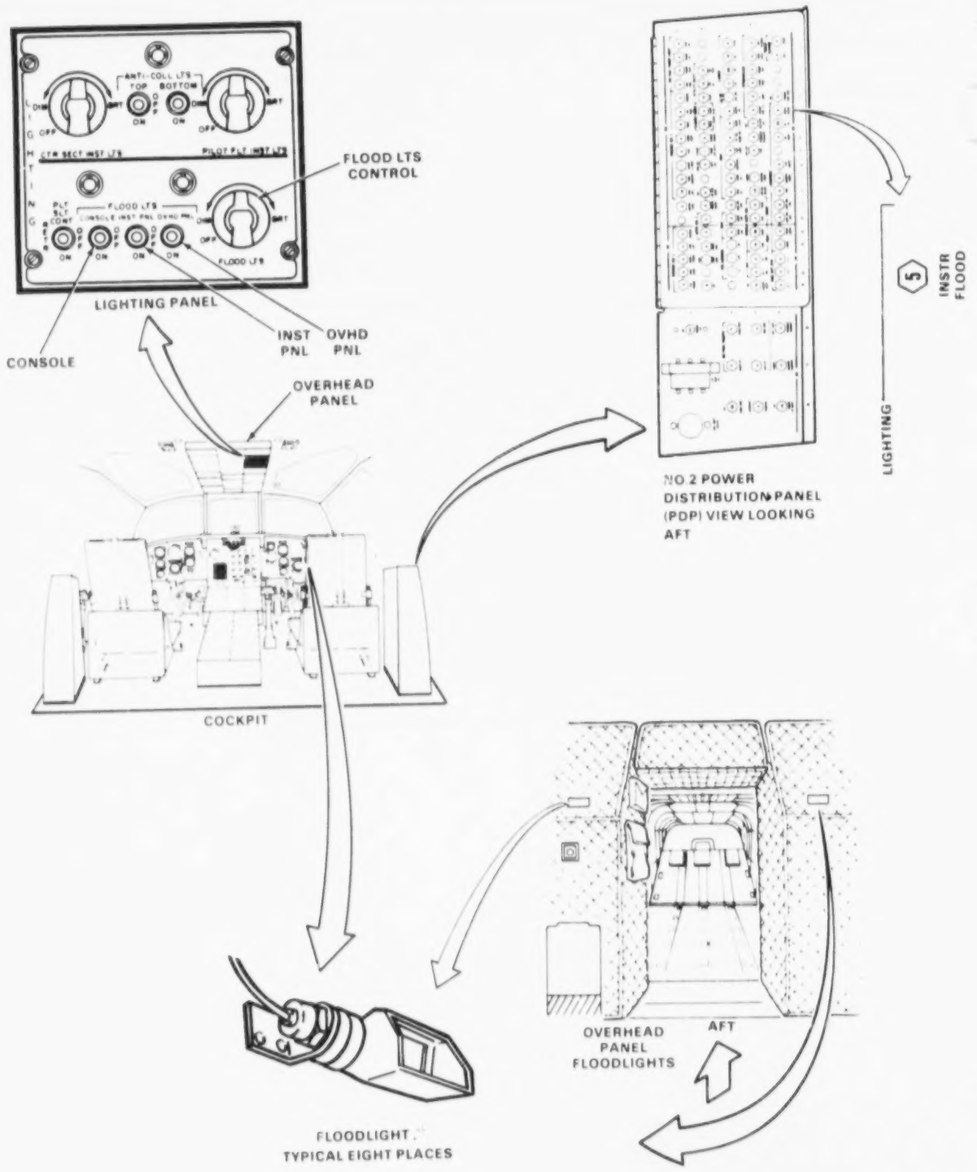
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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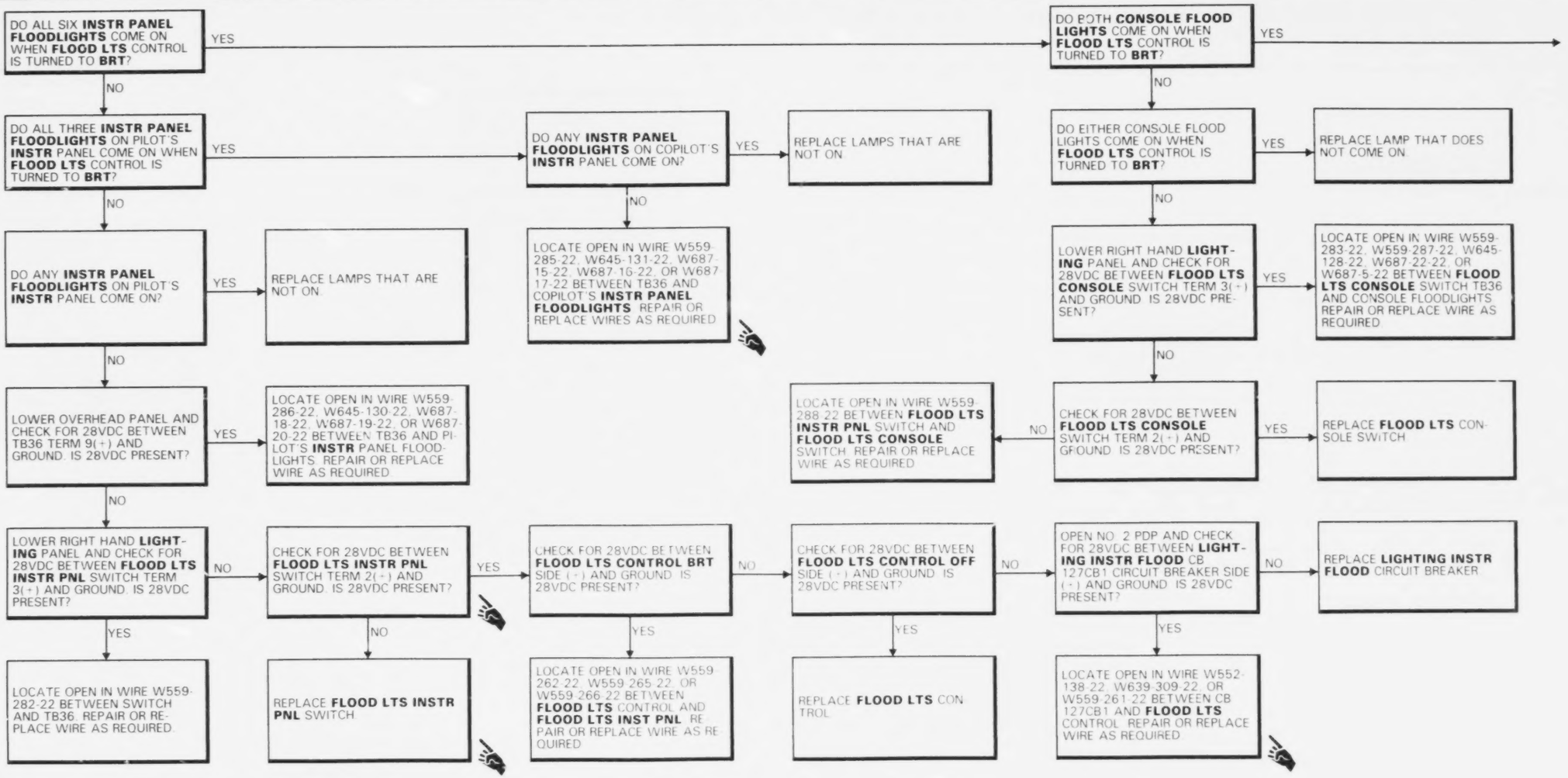
9-13.6 INSTR PANEL, CONSOLE, OR OVERHEAD PANEL FLOOD LIGHTS WILL NOT COME ON (Continued)


DO ALL SIX **INSTR PANEL FLOODLIGHTS** COME ON WHEN **FLOOD LTS** CONTROL IS TURNED TO **BRT**?
YES
DO BOTH **CONSOLE FLOOD LIGHTS** COME ON WHEN **FLOOD LTS** CONTROL IS TURNED TO **BRT**?
YES
NO
DO ALL THREE **INSTR PANEL FLOODLIGHTS** ON PILOT'S **INSTR** PANEL COME ON WHEN **FLOOD LTS** CONTROL IS TURNED TO **BRT**?
YES
DO ANY **INSTR PANEL FLOODLIGHTS** ON COPILOT'S **INSTR** PANEL COME ON?
YES
REPLACE LAMPS THAT ARE NOT ON
DO EITHER CONSOLE FLOOD LIGHTS COME ON WHEN **FLOOD LTS** CONTROL IS TURNED TO **BRT**?
YES
REPLACE LAMP THAT DOES NOT COME ON
NO
NO
NO
DO ANY **INSTR PANEL FLOODLIGHTS** ON PILOT'S **INSTR** PANEL COME ON?
YES
REPLACE LAMPS THAT ARE NOT ON
LOCATE OPEN IN WIRE W559-285-22, W645-131-22, W687-15-22, W687-16-22, OR W687-17-22 BETWEEN TB36 AND COPILOT'S **INSTR PANEL FLOODLIGHTS**. REPAIR OR REPLACE WIRES AS REQUIRED
LOWER RIGHT HAND **LIGHTING** PANEL AND CHECK FOR 28VDC BETWEEN **FLOOD LTS CONSOLE** SWITCH TERM 3(+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W559-283-22, W559-287-22, W645-128-22, W687-22-22, OR W687-5-22 BETWEEN **FLOOD LTS CONSOLE** SWITCH TB36 AND CONSOLE FLOODLIGHTS. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOWER OVERHEAD PANEL AND CHECK FOR 28VDC BETWEEN TB36 TERM 9(+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W559-286-22, W645-130-22, W687-18-22, W687-19-22, OR W687-20-22 BETWEEN TB36 AND PILOT'S **INSTR** PANEL FLOODLIGHTS. REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE OPEN IN WIRE W559-288-22 BETWEEN **FLOOD LTS INSTR PNL** SWITCH AND **FLOOD LTS CONSOLE** SWITCH. REPAIR OR REPLACE WIRE AS REQUIRED
NO
CHECK FOR 28VDC BETWEEN **FLOOD LTS CONSOLE** SWITCH TERM 2(+) AND GROUND. IS 28VDC PRESENT?
YES
REPLACE **FLOOD LTS** CONSOLE SWITCH
NO
LOWER RIGHT HAND **LIGHTING** PANEL AND CHECK FOR 28VDC BETWEEN **FLOOD LTS INSTR PNL** SWITCH TERM 3(+) AND GROUND. IS 28VDC PRESENT?
NO
CHECK FOR 28VDC BETWEEN **FLOOD LTS INSTR PNL** SWITCH TERM 2(+) AND GROUND. IS 28VDC PRESENT?
YES
CHECK FOR 28VDC BETWEEN **FLOOD LTS CONTROL BRT** SIDE (+) AND GROUND. IS 28VDC PRESENT?
NO
CHECK FOR 28VDC BETWEEN **FLOOD LTS CONTROL OFF** SIDE (+) AND GROUND. IS 28VDC PRESENT?
NO
OPEN NO. 2 PDP AND CHECK FOR 28VDC BETWEEN **LIGHTING INSTR FLOOD** CB 127CB1 CIRCUIT BREAKER SIDE (+) AND GROUND. IS 28VDC PRESENT?
NO
REPLACE **LIGHTING INSTR FLOOD** CIRCUIT BREAKER
YES
YES
YES
YES
LOCATE OPEN IN WIRE W559-282-22 BETWEEN SWITCH AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE **FLOOD LTS INSTR PNL** SWITCH
LOCATE OPEN IN WIRE W559-262-22, W559-265-22, OR W559-266-22 BETWEEN **FLOOD LTS** CONTROL AND **FLOOD LTS INST PNL**. REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE **FLOOD LTS** CONTROL
LOCATE OPEN IN WIRE W552-138-22, W639-309-22, OR W559-261-22 BETWEEN CB 127CB1 AND **FLOOD LTS** CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED

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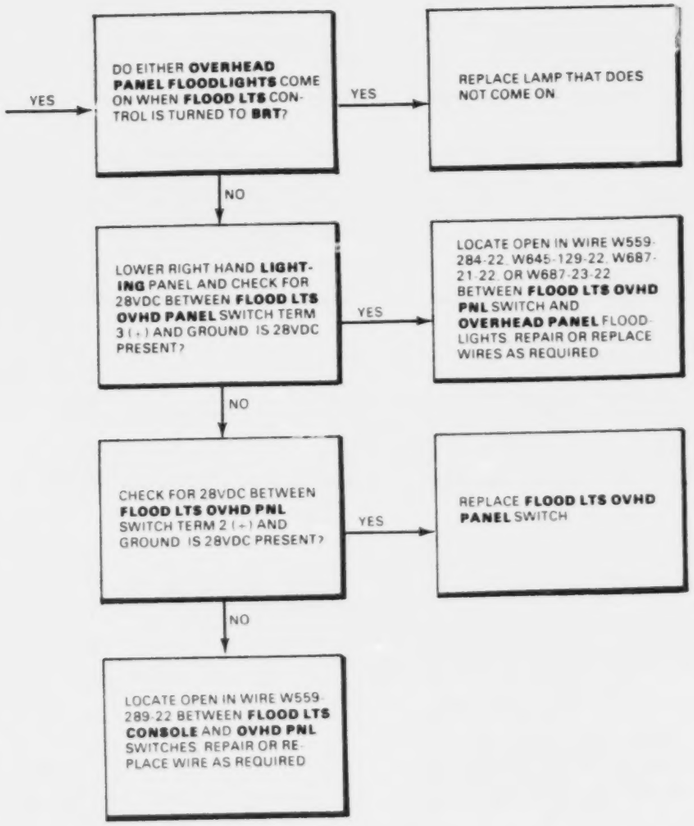
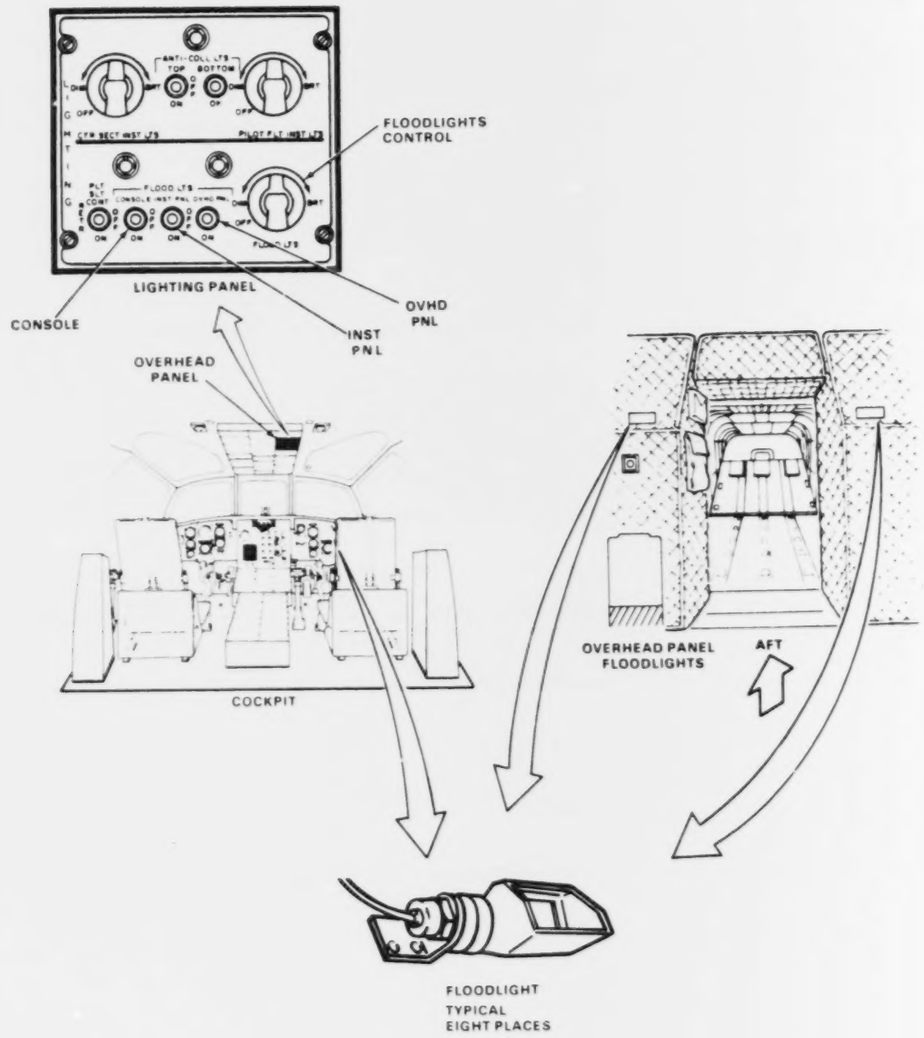
9-13.6 INSTR PANEL, CONSOLE, OR OVERHEAD PANEL FLOODLIGHTS WILL NOT COME ON (Continued)


YES
DO EITHER **OVERHEAD PANEL FLOODLIGHTS** COME ON WHEN **FLOOD LTS** CONTROL IS TURNED TO **BRT**?
YES
REPLACE LAMP THAT DOES NOT COME ON
NO
LOWER RIGHT HAND **LIGHTING** PANEL AND CHECK FOR 28VDC BETWEEN **FLOOD LTS OVHD PANEL** SWITCH TERM 3 (+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W559-284-22, W645-129-22, W687-21-22, OR W687-23-22 BETWEEN **FLOOD LTS OVHD PNL** SWITCH AND **OVERHEAD PANEL** FLOODLIGHTS. REPAIR OR REPLACE WIRES AS REQUIRED
NO
CHECK FOR 28VDC BETWEEN **FLOOD LTS OVHD PNL** SWITCH TERM 2 (+) AND GROUND. IS 28VDC PRESENT?
YES
REPLACE **FLOOD LTS OVHD PANEL** SWITCH
NO
LOCATE OPEN IN WIRE W559-289-22 BETWEEN **FLOOD LTS CONSOLE** AND **OVHD PNL** SWITCHES. REPAIR OR REPLACE WIRE AS REQUIRED



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DI45-11468-SPA

END OF TASK

9-13.7 PILOT'S AND COPILOT'S TURN AND SLIP INDICATOR LIGHTS VARY IN BRIGHTNESS 9-13.7

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

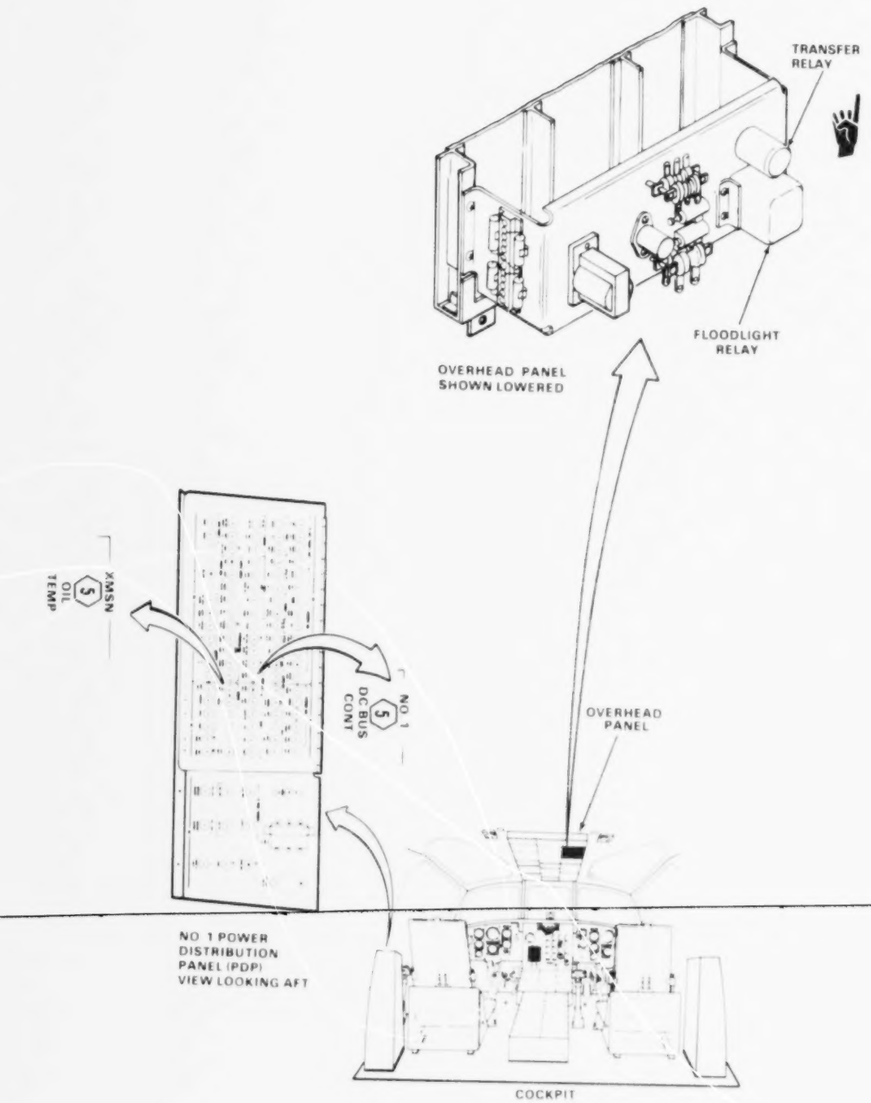
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



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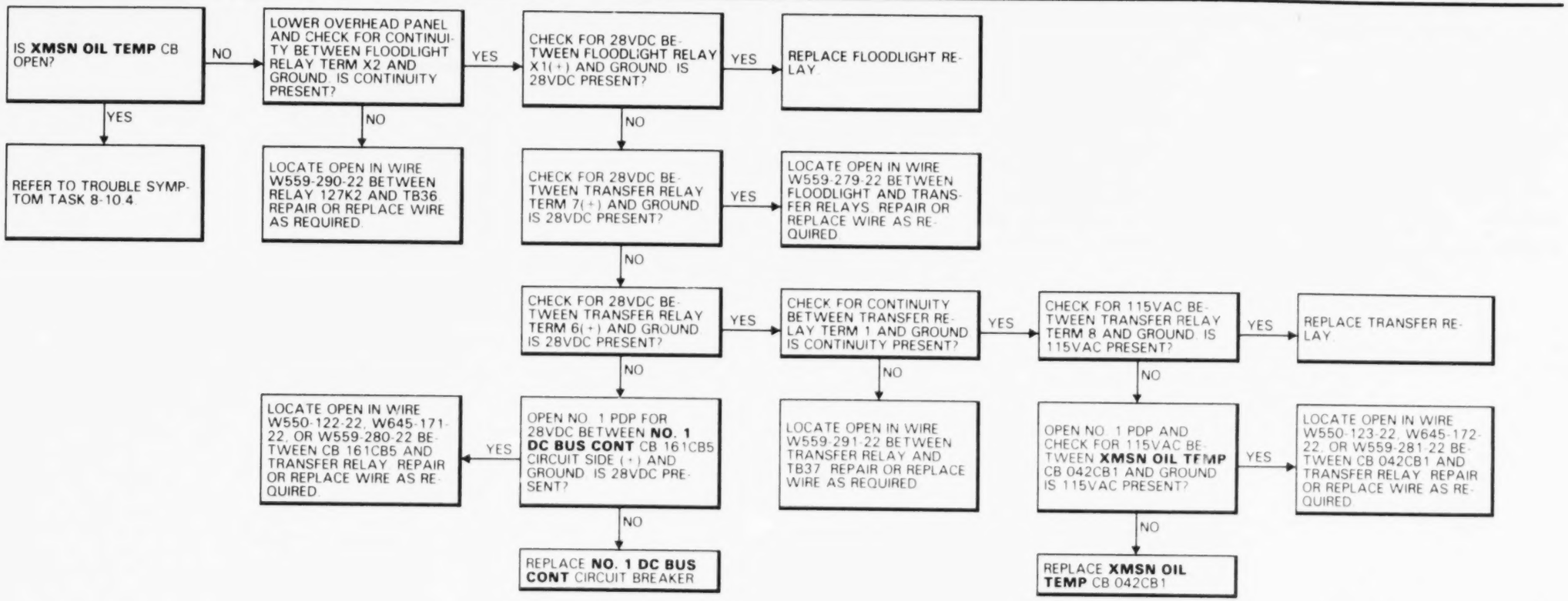
9-13.7 PILOT'S AND COPILOT'S TURN AND SLIP INDICATOR LIGHTS VARY IN BRIGHTNESS (Continued)


IS **XMSN OIL TEMP** CB OPEN?
NO
YES
REFER TO TROUBLE SYMPTOM TASK 8-10.4
LOWER OVERHEAD PANEL AND CHECK FOR CONTINUITY BETWEEN FLOODLIGHT RELAY TERM X2 AND GROUND. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W559-290-22 BETWEEN RELAY 127K2 AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR 28VDC BETWEEN FLOODLIGHT RELAY X1(+) AND GROUND. IS 28VDC PRESENT?
YES
REPLACE FLOODLIGHT RELAY.
NO
CHECK FOR 28VDC BETWEEN TRANSFER RELAY TERM 7(+) AND GROUND IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W559-279-22 BETWEEN FLOODLIGHT AND TRANSFER RELAYS. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR 28VDC BETWEEN TRANSFER RELAY TERM 6(+) AND GROUND IS 28VDC PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN TRANSFER RELAY TERM 1 AND GROUND IS CONTINUITY PRESENT?
YES
CHECK FOR 115VAC BETWEEN TRANSFER RELAY TERM 8 AND GROUND. IS 115VAC PRESENT?
YES
REPLACE TRANSFER RELAY.
NO
OPEN NO. 1 PDP AND CHECK FOR 115VAC BETWEEN **XMSN OIL TEMP** CB 042CB1 AND GROUND. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRE W550-123-22, W645-172-22, OR W559-281-22 BETWEEN CB 042CB1 AND TRANSFER RELAY. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE **XMSN OIL TEMP** CB 042CB1
NO
LOCATE OPEN IN WIRE W559-291-22 BETWEEN TRANSFER RELAY AND TB37. REPAIR OR REPLACE WIRE AS REQUIRED.
OPEN NO. 1 PDP FOR 28VDC BETWEEN **NO. 1 DC BUS CONT** CB 161CB5 CIRCUIT SIDE (+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W550-122-22, W645-171-22, OR W559-280-22 BETWEEN CB 161CB5 AND TRANSFER RELAY. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE **NO. 1 DC BUS CONT** CIRCUIT BREAKER

END OF TASK

9-13.8 PILOT'S OR COPILOT'S TURN AND SLIP INDICATOR LIGHTS OR OVERHEAD PANEL FLOODLIGHTS DO NOT COME ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

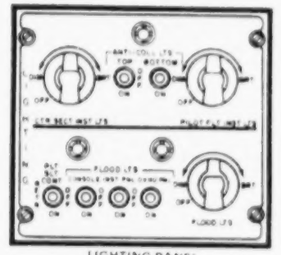
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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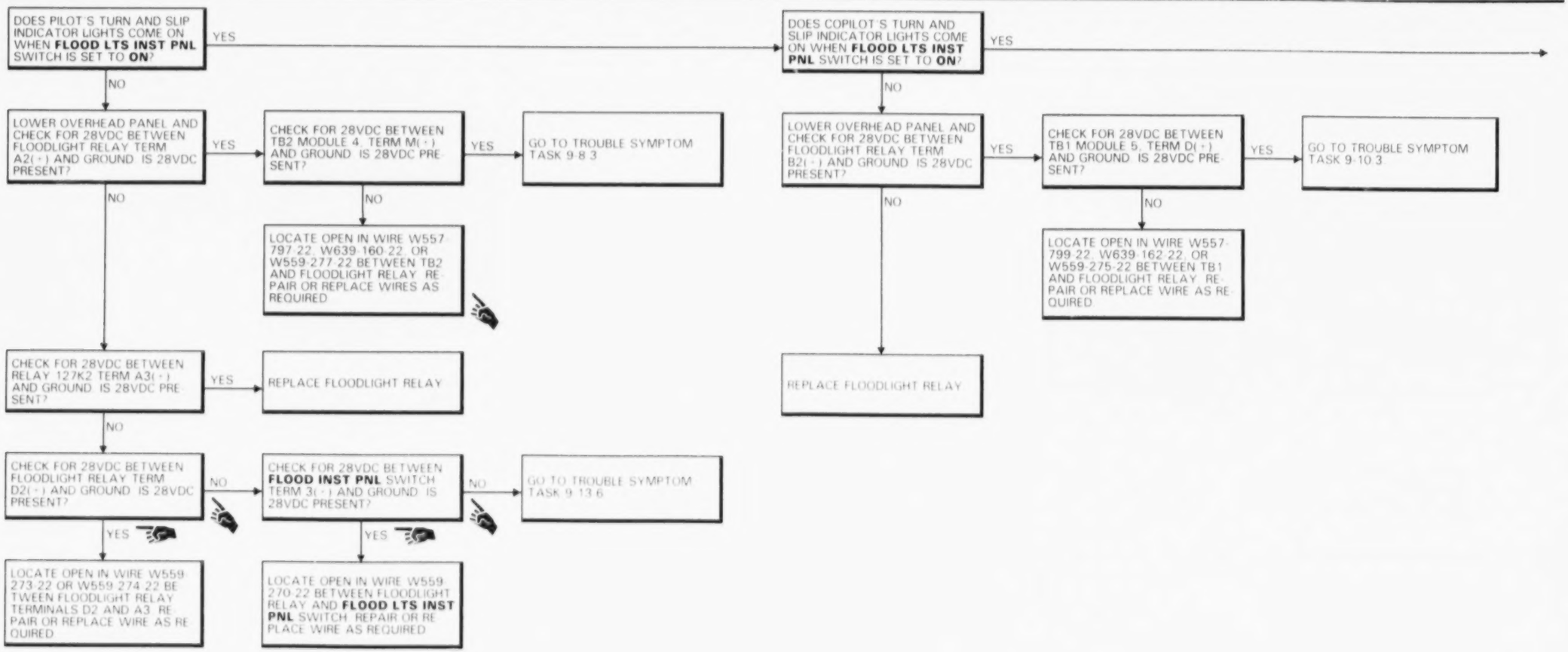
9-13.8 PILOT'S OR COPILOT'S TURN AND SLIP INDICATOR LIGHTS OR OVERHEAD PANEL FLOODLIGHTS DO NOT COME ON (Continued)


DOES PILOT'S TURN AND SLIP INDICATOR LIGHTS COME ON WHEN **FLOOD LTS INST PNL** SWITCH IS SET TO **ON**?
YES
NO
LOWER OVERHEAD PANEL AND CHECK FOR 28VDC BETWEEN FLOODLIGHT RELAY TERM A2(+) AND GROUND. IS 28VDC PRESENT?
YES
CHECK FOR 28VDC BETWEEN TB2 MODULE 4, TERM M(+) AND GROUND. IS 28VDC PRESENT?
YES
GO TO TROUBLE SYMPTOM TASK 9-8.3
NO
LOCATE OPEN IN WIRE W557-797-22, W639-160-22, OR W559-277-22 BETWEEN TB2 AND FLOODLIGHT RELAY. REPAIR OR REPLACE WIRES AS REQUIRED
NO
CHECK FOR 28VDC BETWEEN RELAY 127K2 TERM A3(+) AND GROUND. IS 28VDC PRESENT?
YES
REPLACE FLOODLIGHT RELAY
NO
CHECK FOR 28VDC BETWEEN FLOODLIGHT RELAY TERM D2(-) AND GROUND. IS 28VDC PRESENT?
NO
CHECK FOR 28VDC BETWEEN **FLOOD INST PNL** SWITCH TERM 3(-) AND GROUND. IS 28VDC PRESENT?
NO
GO TO TROUBLE SYMPTOM TASK 9-13.6
YES
LOCATE OPEN IN WIRE W559-273-22 OR W559-274-22 BETWEEN FLOODLIGHT RELAY TERMINALS D2 AND A3. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE OPEN IN WIRE W559-270-22 BETWEEN FLOODLIGHT RELAY AND **FLOOD LTS INST PNL** SWITCH. REPAIR OR REPLACE WIRE AS REQUIRED
DOES COPILOT'S TURN AND SLIP INDICATOR LIGHTS COME ON WHEN **FLOOD LTS INST PNL** SWITCH IS SET TO **ON**?
YES
NO
LOWER OVERHEAD PANEL AND CHECK FOR 28VDC BETWEEN FLOODLIGHT RELAY TERM B2(+) AND GROUND. IS 28VDC PRESENT?
YES
CHECK FOR 28VDC BETWEEN TB1 MODULE 5, TERM D(+) AND GROUND. IS 28VDC PRESENT?
YES
GO TO TROUBLE SYMPTOM TASK 9-10.3
NO
LOCATE OPEN IN WIRE W557-799-22, W639-162-22, OR W559-275-22 BETWEEN TB1 AND FLOODLIGHT RELAY. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE FLOODLIGHT RELAY

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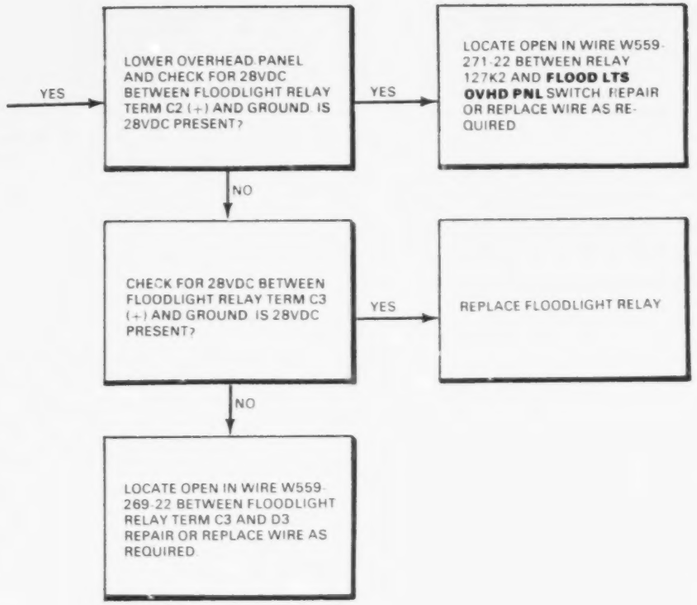
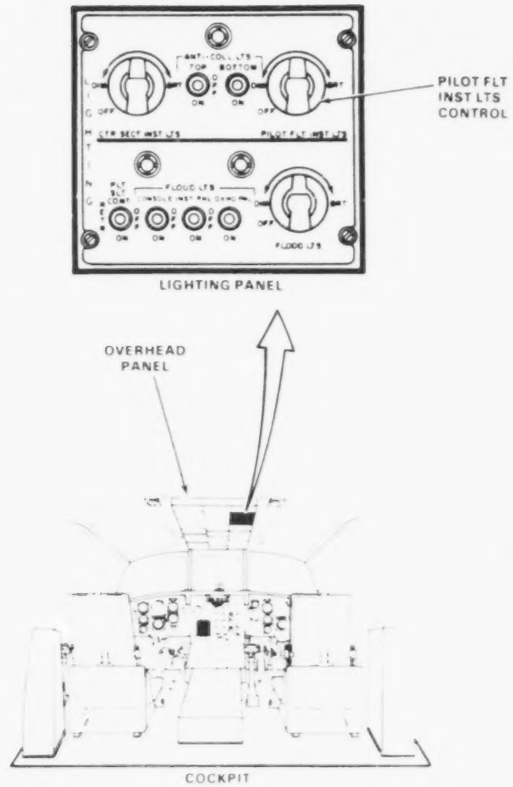
9-13.8 PILOT OR COPILOT'S TURN AND SLIP INDICATOR LIGHTS OR OVERHEAD PANEL FLOODLIGHTS DO NOT COME ON (Continued)


YES
LOWER OVERHEAD PANEL AND CHECK FOR 28VDC BETWEEN FLOODLIGHT RELAY TERM C2 (+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W559-271-22 BETWEEN RELAY 127K2 AND **FLOOD LTS OVHD PNL** SWITCH. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR 28VDC BETWEEN FLOODLIGHT RELAY TERM C3 (+) AND GROUND. IS 28VDC PRESENT?
YES
REPLACE FLOODLIGHT RELAY.
NO
LOCATE OPEN IN WIRE W559-269-22 BETWEEN FLOODLIGHT RELAY TERM C3 AND D3. REPAIR OR REPLACE WIRE AS REQUIRED.



45 X 54

D145-11471-SFA

END OF TASK

9-13.9 FLOODLIGHTS ON INST PANEL AND OVERHEAD PANEL AND LIGHTS ON PILOT AND COPILOT'S TURN AND SLIP INDICATORS DO NOT COME ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

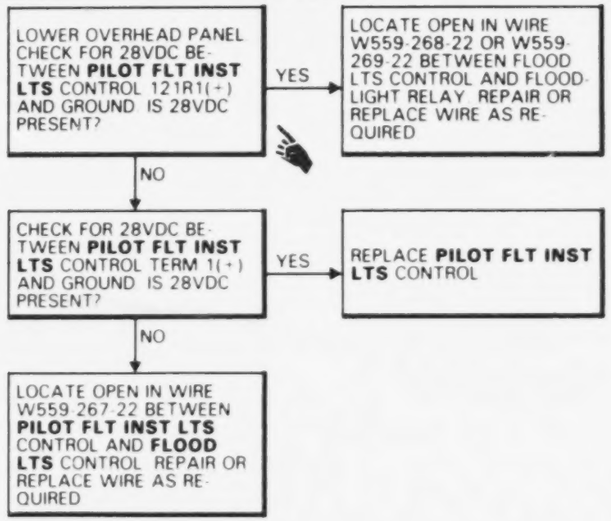
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

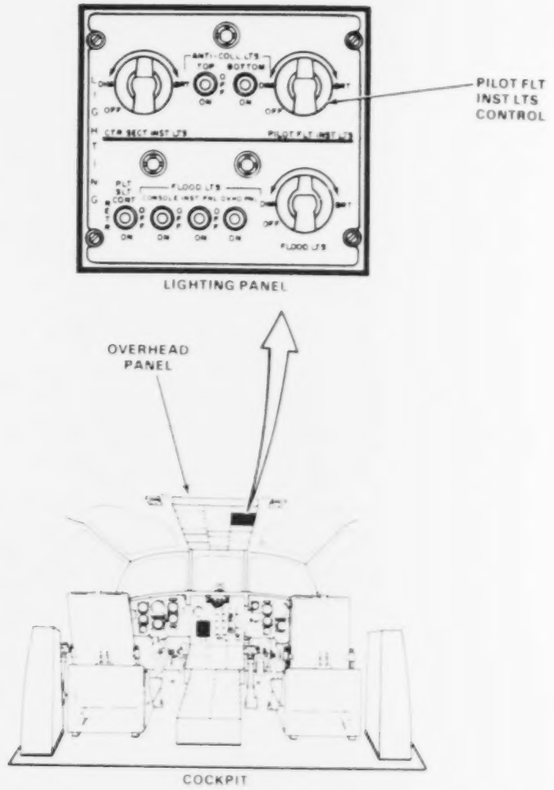
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

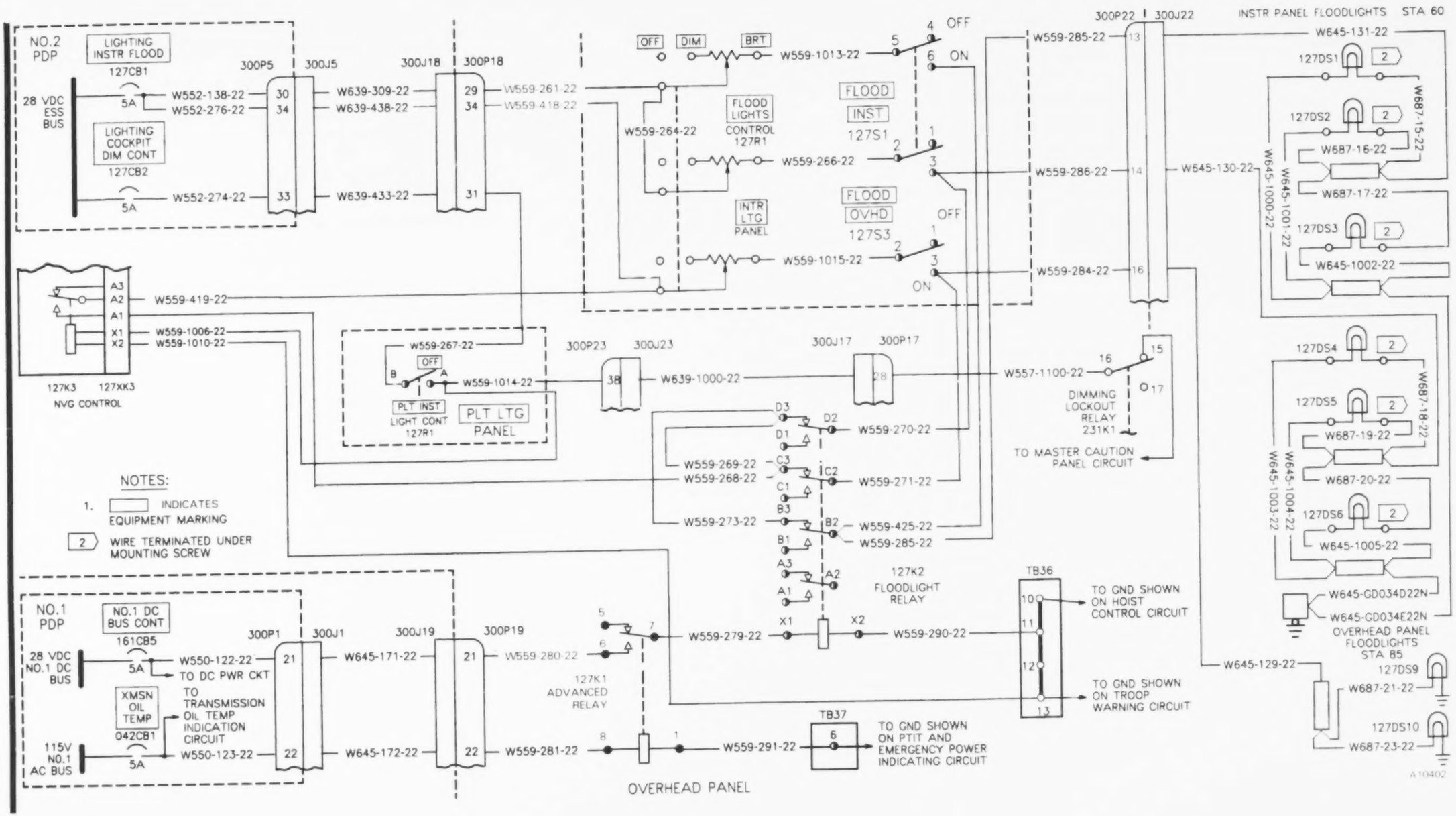
Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off


LOWER OVERHEAD PANEL CHECK FOR 28VDC BETWEEN **PILOT FLT INST LTS** CONTROL 121R1(+) AND GROUND IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W559-268-22 OR W559-269-22 BETWEEN FLOOD LTS CONTROL AND FLOODLIGHT RELAY. REPAIR OR REPLACE WIRE AS REQUIRED
NO
CHECK FOR 28VDC BETWEEN **PILOT FLT INST LTS** CONTROL TERM 1(+) AND GROUND IS 28VDC PRESENT?
YES
REPLACE **PILOT FLT INST LTS** CONTROL
NO
LOCATE OPEN IN WIRE W559-267-22 BETWEEN **PILOT FLT INST LTS** CONTROL AND **FLOOD LTS** CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED



DI45-11472-SPA

END OF TASK


NO.2 PDP
LIGHTING INSTR FLOOD
127CB1
28 VDC ESS BUS
5A
W552-138-22
W552-276-22
LIGHTING COCKPIT DIM CONT
127CB2
5A
W552-274-22
300P5
300J5
300J18
300P18
30
34
33
W639-309-22
W639-438-22
W639-433-22
29
34
31
W559-261-22
W559-418-22
OFF
DIM
BRT
W559-1013-22
W559-264-22
FLOOD LIGHTS CONTROL 127R1
W559-266-22
INTR LTG PANEL
W559-1015-22
FLOOD INST 127S1
FLOOD OVHD 127S3
OFF
ON
W559-285-22
W559-286-22
W559-284-22
300P22
300J22
INSTR PANEL FLOODLIGHTS STA 60
W645-131-22
127DS1
127DS2
W687-16-22
W687-17-22
W687-15-22
W645-130-22
W645-1000-22
W645-1001-22
127DS3
W645-1002-22
127DS4
127DS5
W687-19-22
W687-20-22
W687-18-22
W645-1004-22
W645-1003-22
127DS6
W645-1005-22
W645-GD034D22N
W645-GD034E22N
OVERHEAD PANEL FLOODLIGHTS STA 85
W645-129-22
127DS9
W687-21-22
127DS10
W687-23-22
A3
A2
A1
X1
X2
W559-419-22
W559-1006-22
W559-1010-22
127K3
127XK3
NVG CONTROL
W559-267-22
OFF
B
A
W559-1014-22
PLT INST LIGHT CONT 127R1
PLT LTG PANEL
300P23
300J23
38
W639-1000-22
300J17
300P17
28
W557-1100-22
16
15
17
DIMMING LOCKOUT RELAY 231K1
TO MASTER CAUTION PANEL CIRCUIT
D3
D2
D1
W559-270-22
W559-269-22
W559-268-22
C3
C2
C1
W559-271-22
B3
B2
B1
W559-273-22
W559-425-22
W559-285-22
A3
A2
A1
127K2 FLOODLIGHT RELAY
X1
X2
W559-279-22
W559-290-22
TB36
10
11
12
13
TO GND SHOWN ON HOIST CONTROL CIRCUIT
TO GND SHOWN ON TROOP WARNING CIRCUIT
5
6
7
8
1
127K1 ADVANCED RELAY
W559-280-22
W559-281-22
W559-291-22
TB37
6
TO GND SHOWN ON PTIT AND EMERGENCY POWER INDICATING CIRCUIT
OVERHEAD PANEL
NO.1 PDP
NO.1 DC BUS CONT
161CB5
28 VDC NO.1 DC BUS
5A
W550-122-22
TO DC PWR CKT
XMSN OIL TEMP
042CB1
115V NO.1 AC BUS
5A
W550-123-22
TO TRANSMISSION OIL TEMP INDICATION CIRCUIT
300P1
300J1
300J19
300P19
21
22
W645-171-22
W645-172-22
NOTES:
1. INDICATES EQUIPMENT MARKING
2 WIRE TERMINATED UNDER MOUNTING SCREW
A10402

9-13.11 SECONDARY COCKPIT LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

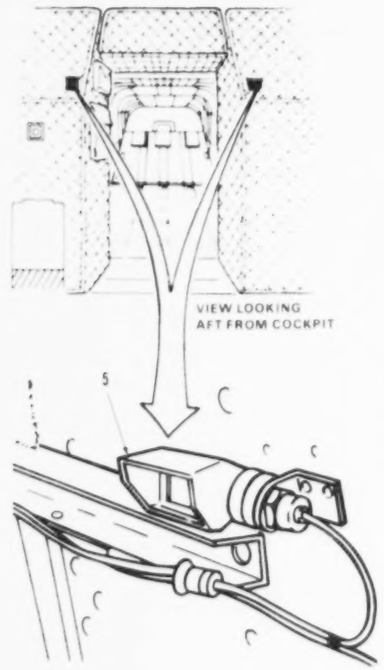
Personnel Required:
Aircraft Electrician

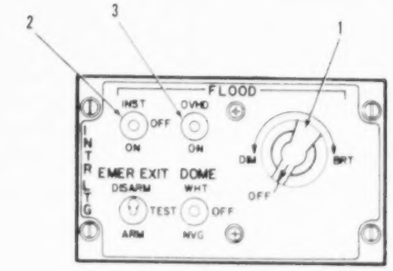
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

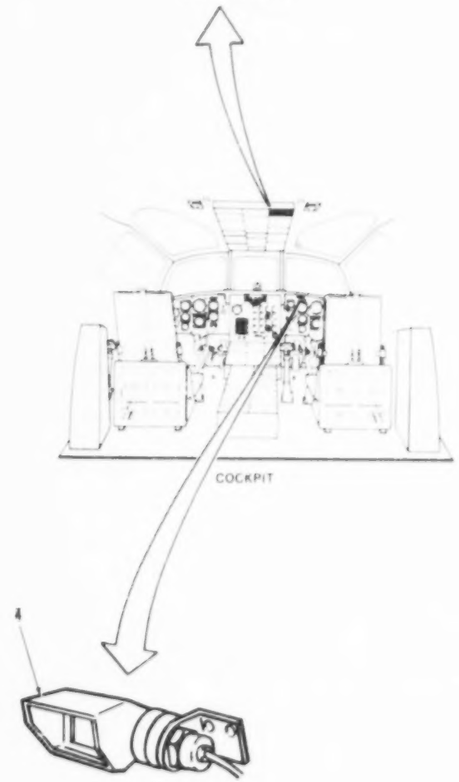
TASK	RESULT
1 **Rotate FLOOD lights DIM BRT control (1) from OFF to BRT and back to OFF.**	FLOOD lights DIM BRT control (1) shall rotate freely and smoothly. If control is loose or binding, replace it.
2 **Check INST FLOOD lights switch (2).**	If switch (2) is loose or damaged, tighten or replace it as required.
3 **Check OVHD FLOOD lights switch (3).**	If switch (3) is loose or damaged, tighten or replace it as required.
4 **Check flood lights (4) on instrument panel and center panel.**	If any flood light (4) is loose or damaged, tighten or replace it as required.
5 **Check flood lights (5)** behind pilot's and copilot's seat.	If either flood light (5) is loose or damaged, tighten or replace it as required.

FOLLOW-ON MAINTENANCE:
None





INTR LTG PANEL



TYPICAL COCKPIT INSTRUMENT PANEL INSTALLATION 6 PLACES

10403

END OF TASK

9-13.12 SECONDARY COCKPIT LIGHTS OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
With 17

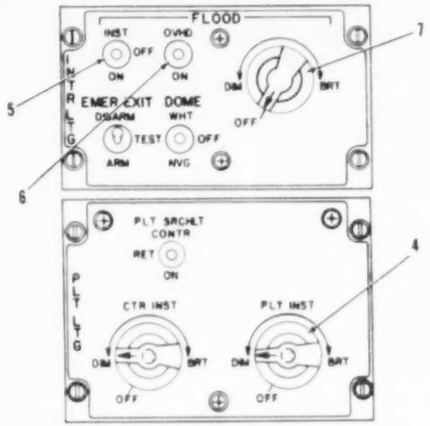
Tools:
None

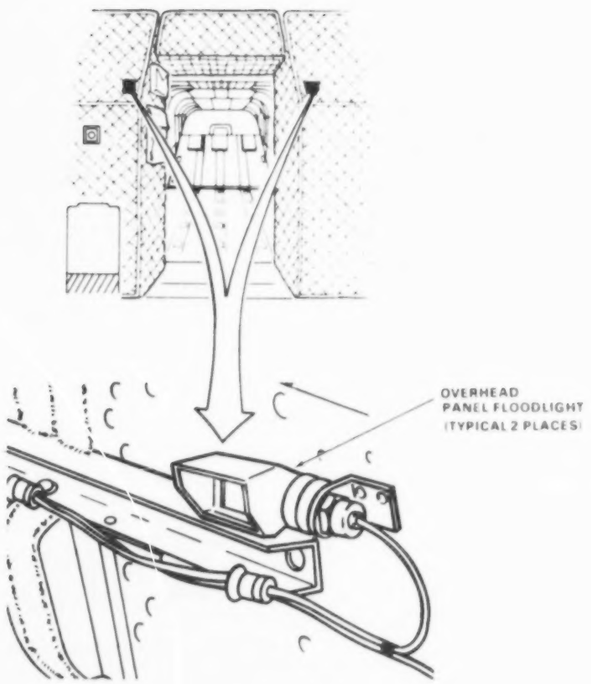
Materials:
None

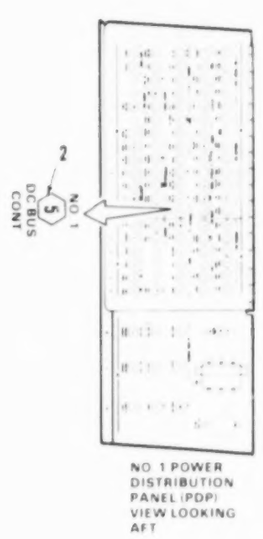
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

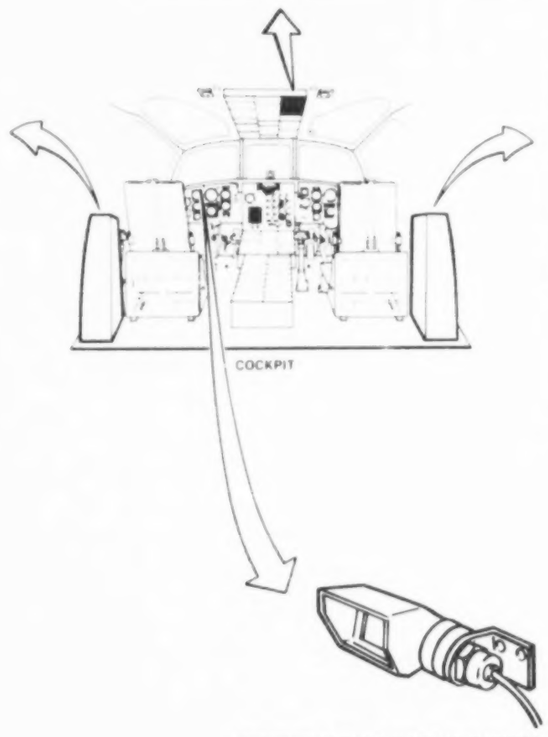
Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Visual Check of Secondary Cockpit Lights Performed (Task 9-13.11)

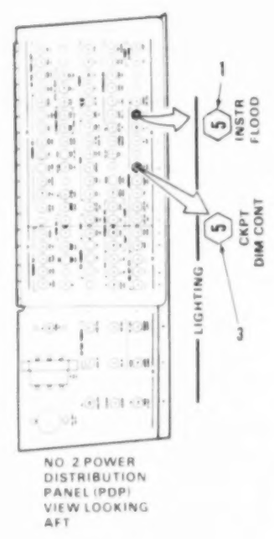






NO 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT





NO 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT

10404

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9-13.12 SECONDARY COCKPIT LIGHTS OPERATIONAL CHECK (Continued)

TASK	RESULT
1. **Check** that **INSTR FLOOD LIGHTING circuit breaker (1)** is **closed.**	If circuit breaker (1) is open, close it. If it opens again, go to task 9-13.13.
2. **Check** that **DC BUS CONT NO. 1 circuit breaker (2)** is **closed.**	If circuit breaker (2) is open, close it. If it opens again, go to task 9-13.5.
3. **Check** that **CKPT DIM CONT LIGHTING circuit breaker (3)** is **closed.**	If circuit breaker (3) is open, close it. If it opens again, go to task 9-13.14.
4. **Set PLT INST lights control (4) to DIM.**	
5. **Set INST and OVHD FLOOD lights switches (5 and 6)** to **ON.**	
6. **Turn FLOOD lights control (7) from OFF through DIM to BRT.**	Eight flood lights, six on instrument panel and two behind pilot's seat shall come on dim and then increase in brightness. If flood lights do not come on, go to task 9-13.15. If flood lights do not increase in brightness, replace FLOOD lights control (7).
7. **Set INST FLOOD lights switch (5) to OFF.**	Six flood lights on instrument panel shall go out. If flood lights do not go out, replace switch (5).
8. **Set OVHD FLOOD lights switch (6) to OFF.**	Two flood lights behind pilot's and copilot's seat shall go out. If flood lights do not go out, replace switch (6).
9. **Open NO. 1 DC BUS CONT circuit breaker (2).**	All eight flood lights shall come on. If not, go to task 9-13.16.
10. **Turn PLT INST lights control (4) to OFF.**	Flood lights and indicator lights shall go out. If not, replace PLT INST lights control (4).
11. **Close NO. 1 DC BUS CONT circuit breaker (2).**	

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

END OF TASK

9-13.13 INSTR FLOOD LIGHTING CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

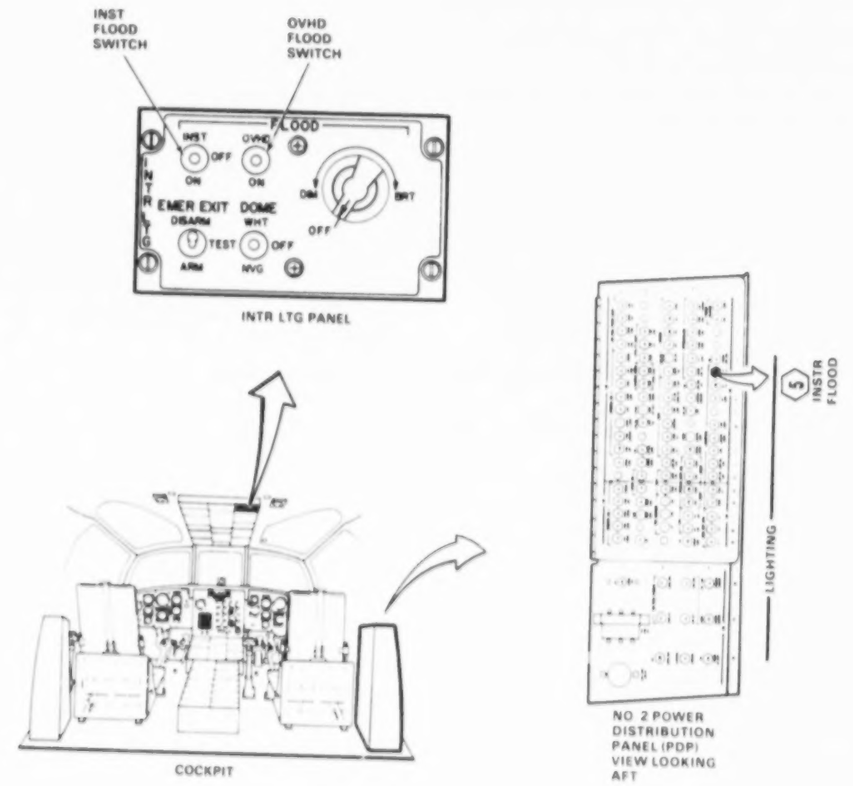
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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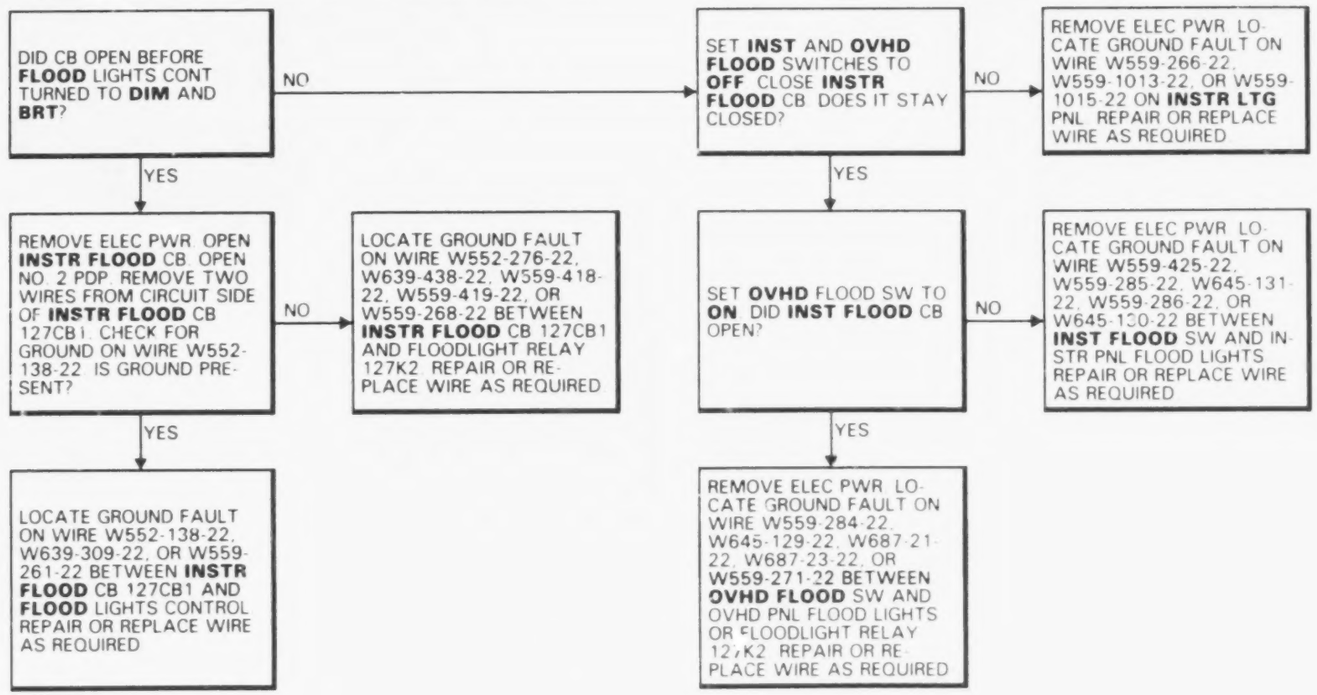

DID CB OPEN BEFORE **FLOOD** LIGHTS CONT TURNED TO **DIM** AND **BRT**?
NO
YES
REMOVE ELEC PWR. OPEN **INSTR FLOOD** CB. OPEN NO. 2 PDP. REMOVE TWO WIRES FROM CIRCUIT SIDE OF **INSTR FLOOD** CB 127CB1. CHECK FOR GROUND ON WIRE W552-138-22. IS GROUND PRESENT?
NO
LOCATE GROUND FAULT ON WIRE W552-276-22, W639-438-22, W559-418-22, W559-419-22, OR W559-268-22 BETWEEN **INSTR FLOOD** CB 127CB1 AND FLOODLIGHT RELAY 127K2. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE GROUND FAULT ON WIRE W552-138-22, W639-309-22, OR W559-261-22 BETWEEN **INSTR FLOOD** CB 127CB1 AND **FLOOD** LIGHTS CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED
SET **INST** AND **OVHD FLOOD** SWITCHES TO **OFF**. CLOSE **INSTR FLOOD** CB. DOES IT STAY CLOSED?
NO
REMOVE ELEC PWR. LOCATE GROUND FAULT ON WIRE W559-266-22, W559-1013-22, OR W559-1015-22 ON **INSTR LTG** PNL. REPAIR OR REPLACE WIRE AS REQUIRED
YES
SET **OVHD** FLOOD SW TO **ON**. DID **INST FLOOD** CB OPEN?
NO
REMOVE ELEC PWR. LOCATE GROUND FAULT ON WIRE W559-425-22, W559-285-22, W645-131-22, W559-286-22, OR W645-130-22 BETWEEN **INST FLOOD** SW AND INSTR PNL FLOOD LIGHTS. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE ELEC PWR. LOCATE GROUND FAULT ON WIRE W559-284-22, W645-129-22, W687-21-22, W687-23-22, OR W559-271-22 BETWEEN **OVHD FLOOD** SW AND OVHD PNL FLOOD LIGHTS OR FLOODLIGHT RELAY 127K2. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

9-13.14 CKPT DIM CONT CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

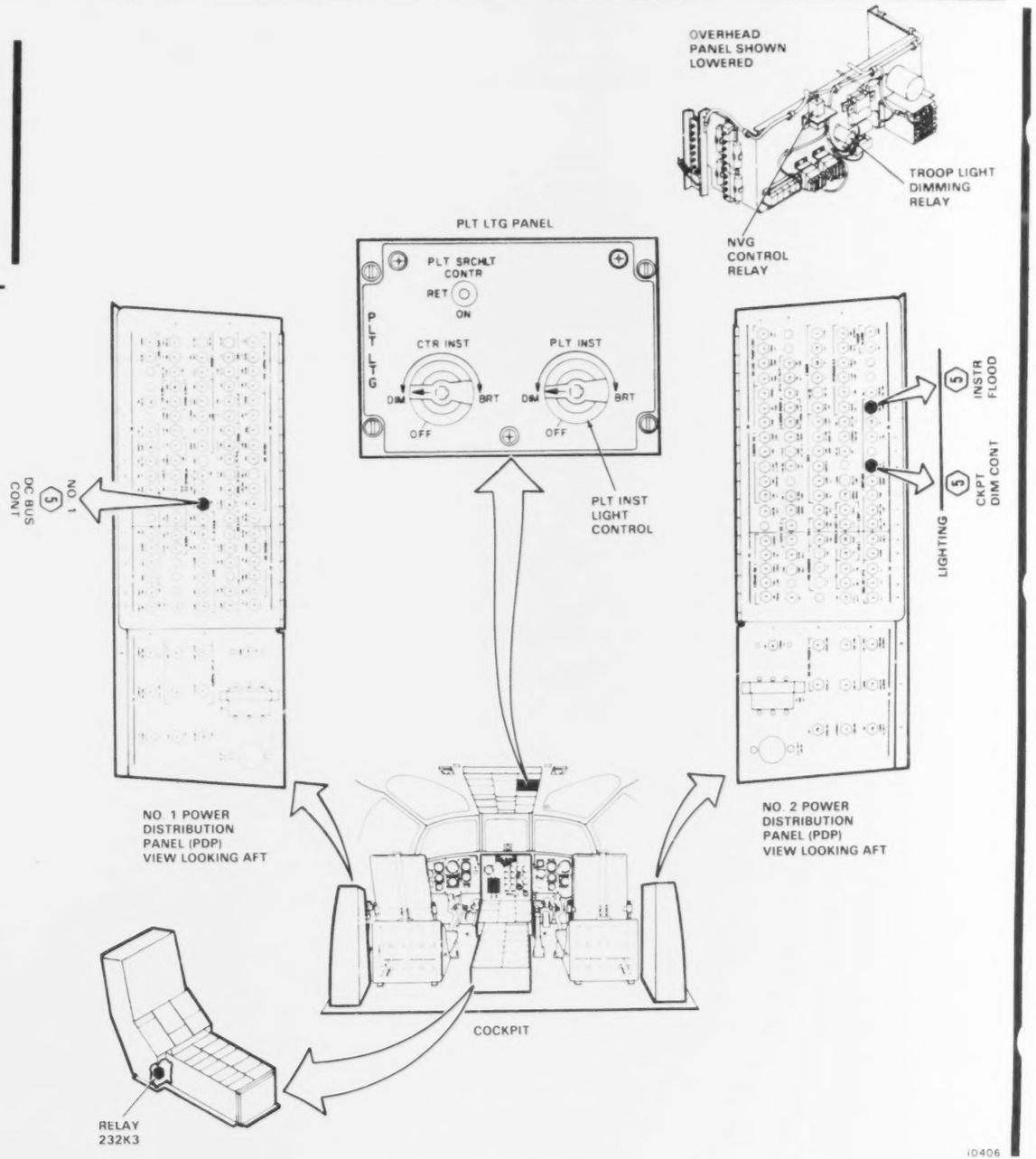
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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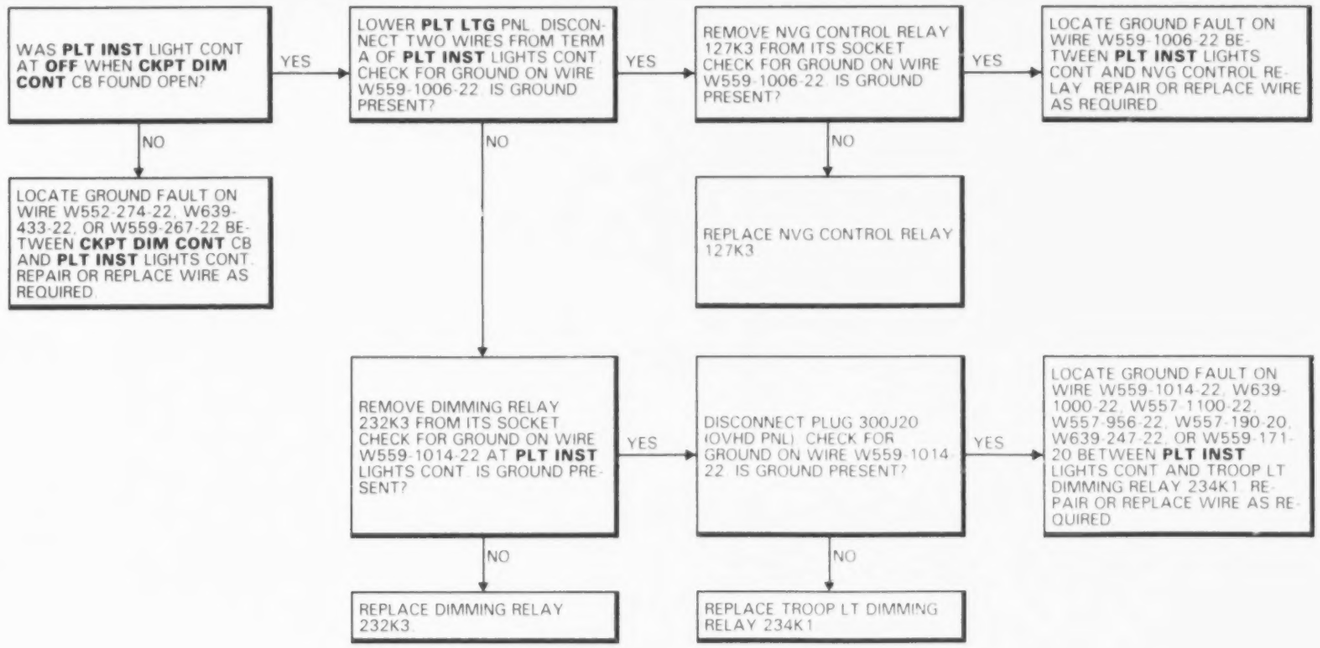

WAS **PLT INST** LIGHT CONT AT **OFF** WHEN **CKPT DIM CONT** CB FOUND OPEN?
YES
NO
LOCATE GROUND FAULT ON WIRE W552-274-22, W639-433-22, OR W559-267-22 BETWEEN **CKPT DIM CONT** CB AND **PLT INST** LIGHTS CONT. REPAIR OR REPLACE WIRE AS REQUIRED.
LOWER **PLT LTG** PNL. DISCONNECT TWO WIRES FROM TERM A OF **PLT INST** LIGHTS CONT. CHECK FOR GROUND ON WIRE W559-1006-22. IS GROUND PRESENT?
YES
NO
REMOVE NVG CONTROL RELAY 127K3 FROM ITS SOCKET. CHECK FOR GROUND ON WIRE W559-1006-22. IS GROUND PRESENT?
YES
NO
LOCATE GROUND FAULT ON WIRE W559-1006-22 BETWEEN **PLT INST** LIGHTS CONT AND NVG CONTROL RELAY. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE NVG CONTROL RELAY 127K3.
REMOVE DIMMING RELAY 232K3 FROM ITS SOCKET. CHECK FOR GROUND ON WIRE W559-1014-22 AT **PLT INST** LIGHTS CONT. IS GROUND PRESENT?
YES
NO
DISCONNECT PLUG 300J20 (OVHD PNL). CHECK FOR GROUND ON WIRE W559-1014-22. IS GROUND PRESENT?
YES
NO
LOCATE GROUND FAULT ON WIRE W559-1014-22, W639-1000-22, W557-1100-22, W557-956-22, W557-190-20, W639-247-22, OR W559-171-20 BETWEEN **PLT INST** LIGHTS CONT AND TROOP LT DIMMING RELAY 234K1. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE DIMMING RELAY 232K3.
REPLACE TROOP LT DIMMING RELAY 234K1.

END OF TASK

9-13.15 INSTR PANEL OR OVERHEAD PANEL FLOOD LIGHTS WILL NOT COME ON 9-13.15

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

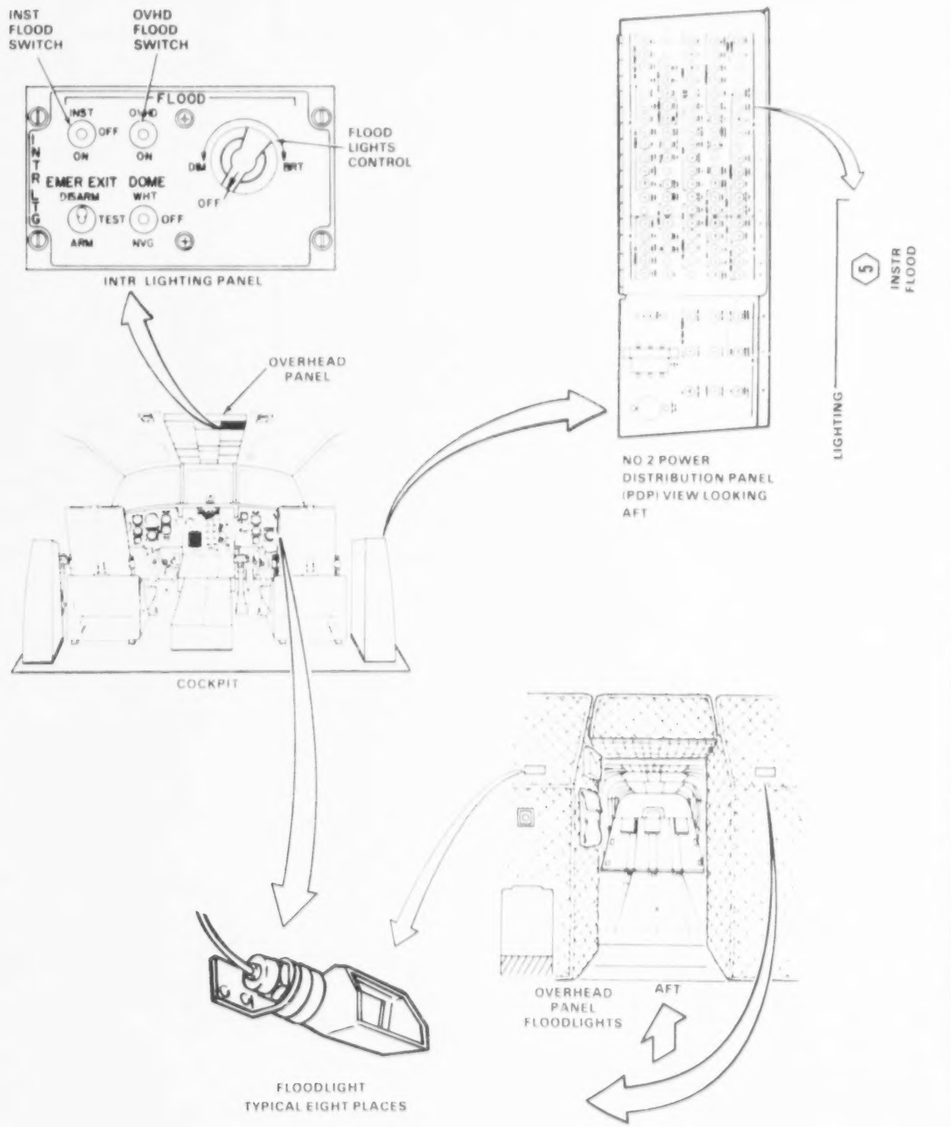
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



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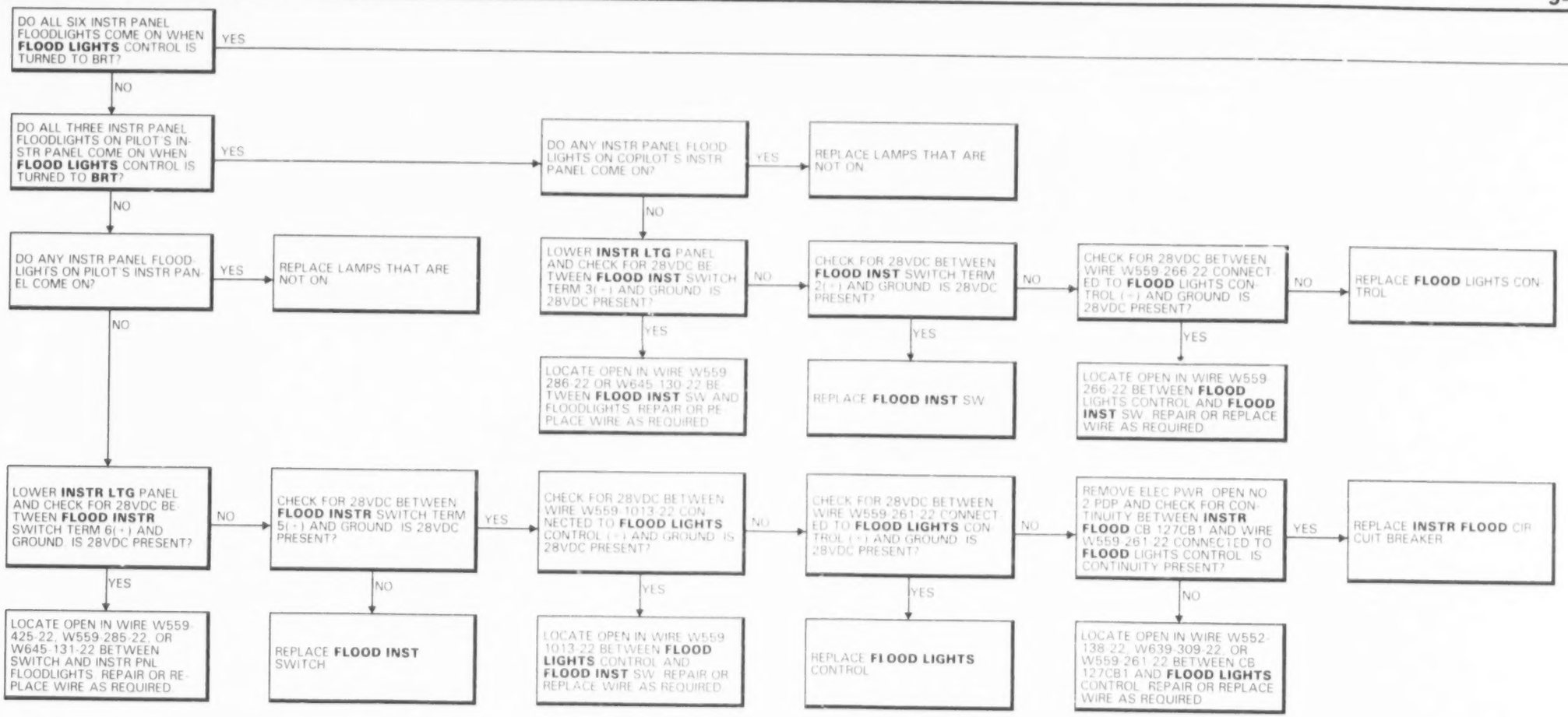
9-13.15 INSTR PANEL OR OVERHEAD PANEL FLOOD LIGHTS WILL NOT COME ON (Continued)


DO ALL SIX INSTR PANEL FLOODLIGHTS COME ON WHEN **FLOOD LIGHTS** CONTROL IS TURNED TO BRT?
YES
NO
DO ALL THREE INSTR PANEL FLOODLIGHTS ON PILOT'S INSTR PANEL COME ON WHEN **FLOOD LIGHTS** CONTROL IS TURNED TO **BRT**?
YES
NO
DO ANY INSTR PANEL FLOODLIGHTS ON COPILOT'S INSTR PANEL COME ON?
YES
REPLACE LAMPS THAT ARE NOT ON
NO
DO ANY INSTR PANEL FLOODLIGHTS ON PILOT'S INSTR PANEL COME ON?
YES
REPLACE LAMPS THAT ARE NOT ON
NO
LOWER **INSTR LTG** PANEL AND CHECK FOR 28VDC BETWEEN **FLOOD INST** SWITCH TERM 3(+) AND GROUND. IS 28VDC PRESENT?
NO
CHECK FOR 28VDC BETWEEN **FLOOD INST** SWITCH TERM 2(+) AND GROUND. IS 28VDC PRESENT?
NO
CHECK FOR 28VDC BETWEEN WIRE W559-266-22 CONNECTED TO **FLOOD** LIGHTS CONTROL (+) AND GROUND. IS 28VDC PRESENT?
NO
REPLACE **FLOOD** LIGHTS CONTROL
YES
LOCATE OPEN IN WIRE W559-266-22 BETWEEN **FLOOD** LIGHTS CONTROL AND **FLOOD INST** SW. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE **FLOOD INST** SW
YES
LOCATE OPEN IN WIRE W559-286-22 OR W645-130-22 BETWEEN **FLOOD INST** SW AND FLOODLIGHTS. REPAIR OR REPLACE WIRE AS REQUIRED
LOWER **INSTR LTG** PANEL AND CHECK FOR 28VDC BETWEEN **FLOOD INSTR** SWITCH TERM 6(+) AND GROUND. IS 28VDC PRESENT?
NO
CHECK FOR 28VDC BETWEEN **FLOOD INSTR** SWITCH TERM 5(+) AND GROUND. IS 28VDC PRESENT?
YES
CHECK FOR 28VDC BETWEEN WIRE W559-1013-22 CONNECTED TO **FLOOD LIGHTS** CONTROL (+) AND GROUND. IS 28VDC PRESENT?
NO
CHECK FOR 28VDC BETWEEN WIRE W559-261-22 CONNECTED TO **FLOOD LIGHTS** CONTROL (+) AND GROUND. IS 28VDC PRESENT?
NO
REMOVE ELEC PWR. OPEN NO 2 PDP AND CHECK FOR CONTINUITY BETWEEN **INSTR FLOOD** CB 127CB1 AND WIRE W559-261-22 CONNECTED TO **FLOOD** LIGHTS CONTROL. IS CONTINUITY PRESENT?
YES
REPLACE **INSTR FLOOD** CIRCUIT BREAKER
YES
REPLACE **FLOOD LIGHTS** CONTROL
NO
LOCATE OPEN IN WIRE W559-1013-22 BETWEEN **FLOOD LIGHTS** CONTROL AND **FLOOD INST** SW. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE OPEN IN WIRE W559-425-22, W559-285-22, OR W645-131-22 BETWEEN SWITCH AND INSTR PNL FLOODLIGHTS. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE **FLOOD INST** SWITCH
NO
LOCATE OPEN IN WIRE W552-138-22, W639-309-22, OR W559-261-22 BETWEEN CB 127CB1 AND **FLOOD LIGHTS** CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED

GO TO NEXT PAGE

9-13.15 INSTR PANEL OR OVERHEAD PANEL FLOOD LIGHTS WILL NOT COME ON (Continued)

YES

DO EITHER OVERHEAD PANEL FLOODLIGHTS COME ON WHEN **FLOOD LIGHTS** CONTROL IS TURNED TO **BRT**?

YES → REPLACE LAMP THAT DOES NOT COME ON

NO

LOWER **INTR LTG** PANEL AND CHECK FOR 28VDC BETWEEN **FLOOD OVHD** SWITCH TERM 3(+) AND GROUND. IS 28VDC PRESENT?

YES → LOCATE OPEN IN WIRE W559-284-22, W645-129-22, W687-21-22, OR W687-23-22 BETWEEN **FLOOD OVHD** SWITCH AND OVERHEAD PANEL FLOODLIGHTS. REPAIR OR REPLACE WIRE AS REQUIRED.

NO

CHECK FOR 28VDC BETWEEN WIRE **FLOOD OVHD** SWITCH TERM 2(+) AND GROUND. IS 28VDC PRESENT?

YES → REPLACE **FLOOD OVHD** SWITCH.

NO

CHECK FOR 28VDC BETWEEN WIRE W559-1015-22 CONNECTED TO **FLOOD LIGHTS** CONTROL (+) AND GROUND. IS 28VDC PRESENT?

YES → LOCATE OPEN IN WIRE W559-1015-22 BETWEEN **FLOOD LIGHTS** CONTROL AND **FLOOD OVHD** SW. REPAIR OR REPLACE WIRE AS REQUIRED.

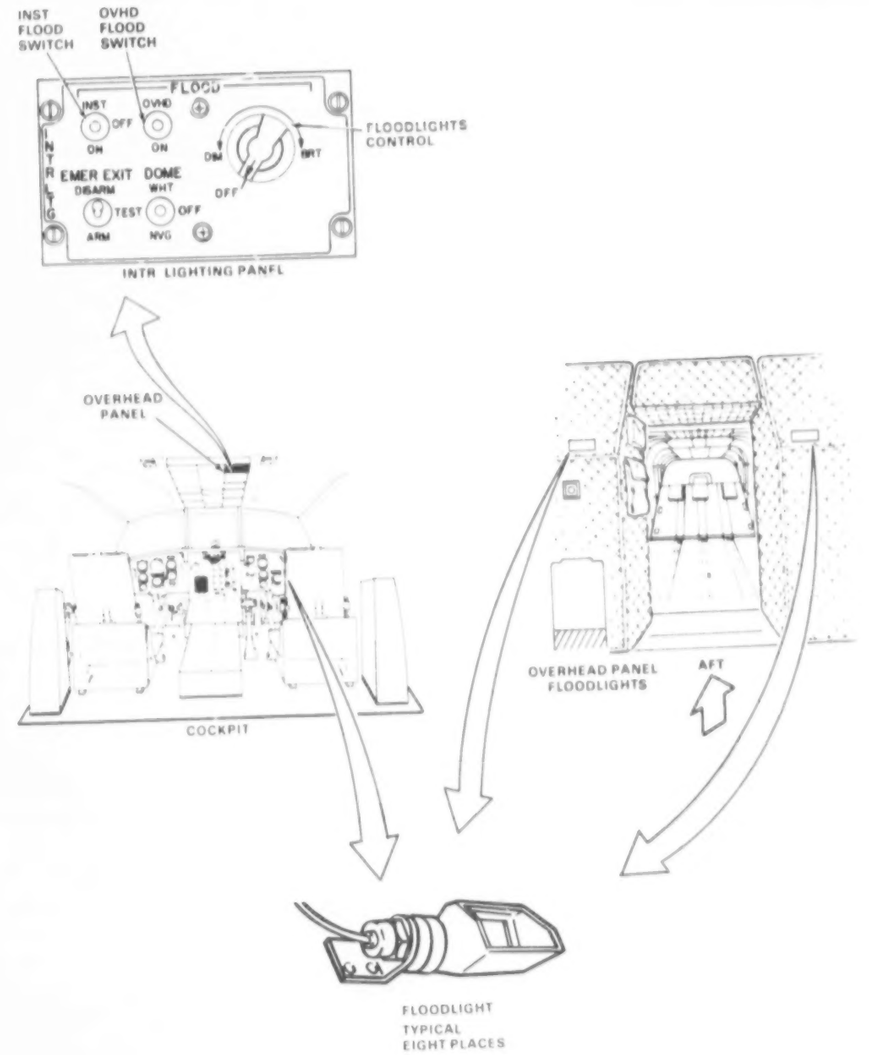
NO

CHECK FOR 28VDC BETWEEN WIRE W559-418-22 CONNECTED TO **FLOOD LIGHTS** CONTROL (+) AND GROUND. IS 28VDC PRESENT?

YES → REPLACE **FLOOD LIGHTS** CONTROL.

NO

LOCATE OPEN IN WIRE W559-418-22, W639-438-22, OR W552-276-22 BETWEEN **FLOOD LIGHTS** CONTROL AND **INSTR** FLOOD CB. REPAIR OR REPLACE WIRE AS REQUIRED.



END OF TASK

9-13.16 ALL FLOODLIGHTS DO NOT COME ON WHEN PLT INST LIGHT CONTROL SET TO OFF

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

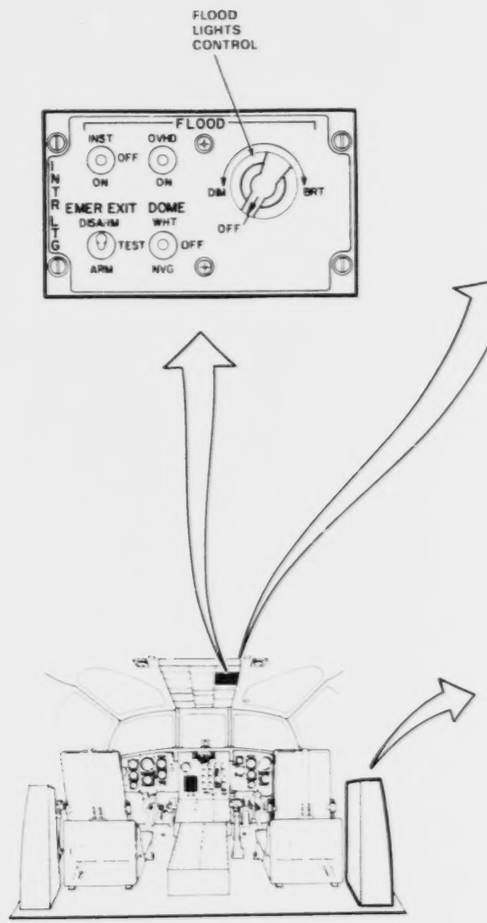
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

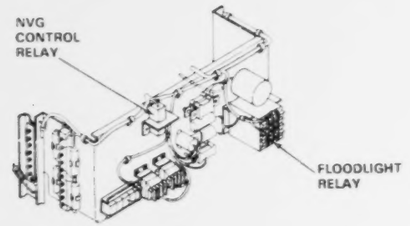
Materials:
None

Personnel Required:
Aircraft Electrician

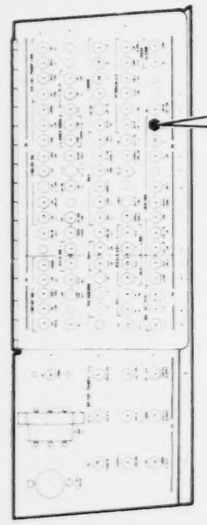
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off





OVERHEAD PANEL
SHOWN LOWERED



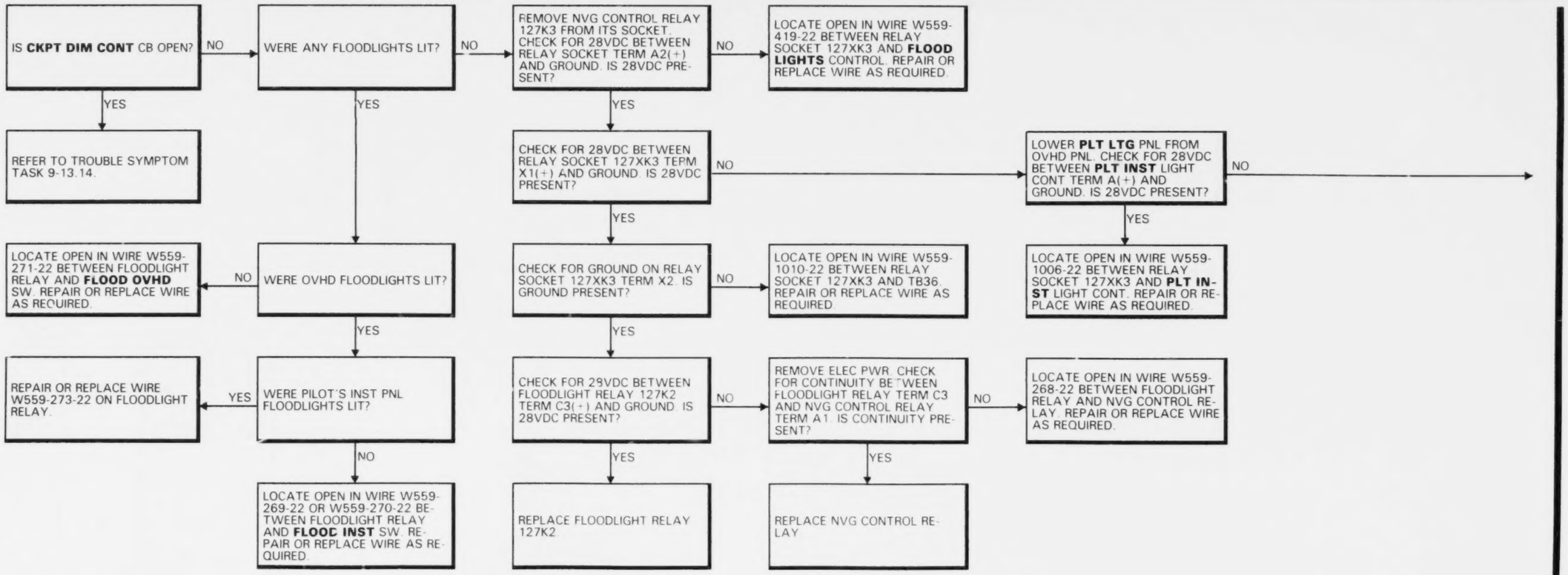
NO. 2 POWER
DISTRIBUTION
PANEL (PDP)
VIEW LOOKING AFT

5 INSTR FLOOD

LIGHTING

10409

GO TO NEXT PAGE


IS **CKPT DIM CONT** CB OPEN?
NO
YES
REFER TO TROUBLE SYMPTOM TASK 9-13.14.
WERE ANY FLOODLIGHTS LIT?
NO
YES
WERE OVHD FLOODLIGHTS LIT?
NO
LOCATE OPEN IN WIRE W559-271-22 BETWEEN FLOODLIGHT RELAY AND **FLOOD OVHD** SW. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
WERE PILOT'S INST PNL FLOODLIGHTS LIT?
YES
REPAIR OR REPLACE WIRE W559-273-22 ON FLOODLIGHT RELAY.
NO
LOCATE OPEN IN WIRE W559-269-22 OR W559-270-22 BETWEEN FLOODLIGHT RELAY AND **FLOOD INST** SW. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE NVG CONTROL RELAY 127K3 FROM ITS SOCKET. CHECK FOR 28VDC BETWEEN RELAY SOCKET TERM A2(+) AND GROUND. IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W559-419-22 BETWEEN RELAY SOCKET 127XK3 AND **FLOOD LIGHTS** CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR 28VDC BETWEEN RELAY SOCKET 127XK3 TERM X1(+) AND GROUND. IS 28VDC PRESENT?
NO
LOWER **PLT LTG** PNL FROM OVHD PNL. CHECK FOR 28VDC BETWEEN **PLT INST** LIGHT CONT TERM A(+) AND GROUND. IS 28VDC PRESENT?
NO
YES
LOCATE OPEN IN WIRE W559-1006-22 BETWEEN RELAY SOCKET 127XK3 AND **PLT INST** LIGHT CONT. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR GROUND ON RELAY SOCKET 127XK3 TERM X2. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W559-1010-22 BETWEEN RELAY SOCKET 127XK3 AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR 28VDC BETWEEN FLOODLIGHT RELAY 127K2 TERM C3(+) AND GROUND. IS 28VDC PRESENT?
NO
REMOVE ELEC PWR. CHECK FOR CONTINUITY BETWEEN FLOODLIGHT RELAY TERM C3 AND NVG CONTROL RELAY TERM A1. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W559-268-22 BETWEEN FLOODLIGHT RELAY AND NVG CONTROL RELAY. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE NVG CONTROL RELAY
YES
REPLACE FLOODLIGHT RELAY 127K2.

GO TO NEXT PAGE

NO

CHECK FOR 28VDC BETWEEN **PLT INST** LIGHT CONT TERM B(+) AND GROUND. IS 28VDC PRESENT?

YES → REPLACE **PLT INST** LIGHT CONT.

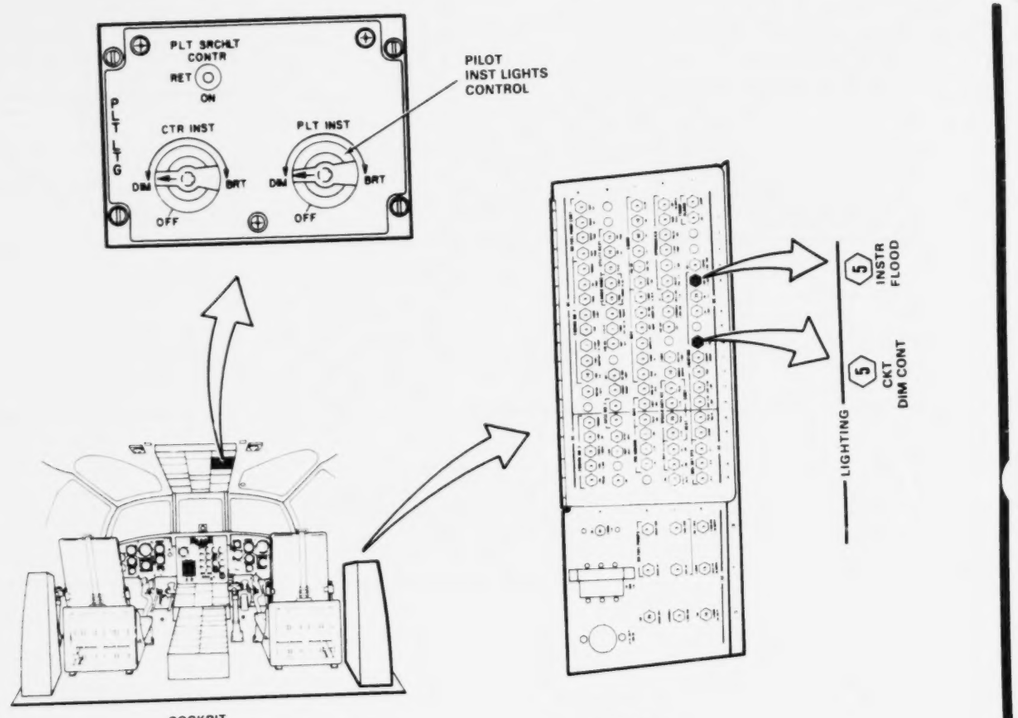
NO

REMOVE ELEC PWR. OPEN NO. 2 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF **CKPT DIM CONT** CB 127CB2 AND TERM B OF **PLT INST** LIGHT CONT. IS CONTINUITY PRESENT?

YES → REPLACE **CKPT DIM CONT** CB 127CB2.

NO

LOCATE OPEN IN WIRE W559-267-22, W639-433-22, OR W552-274-22 BETWEEN **PLT INST** LIGHT CONT AND **CKPT DIM CONT** CB. REPAIR OR REPLACE WIRE AS REQUIRED.



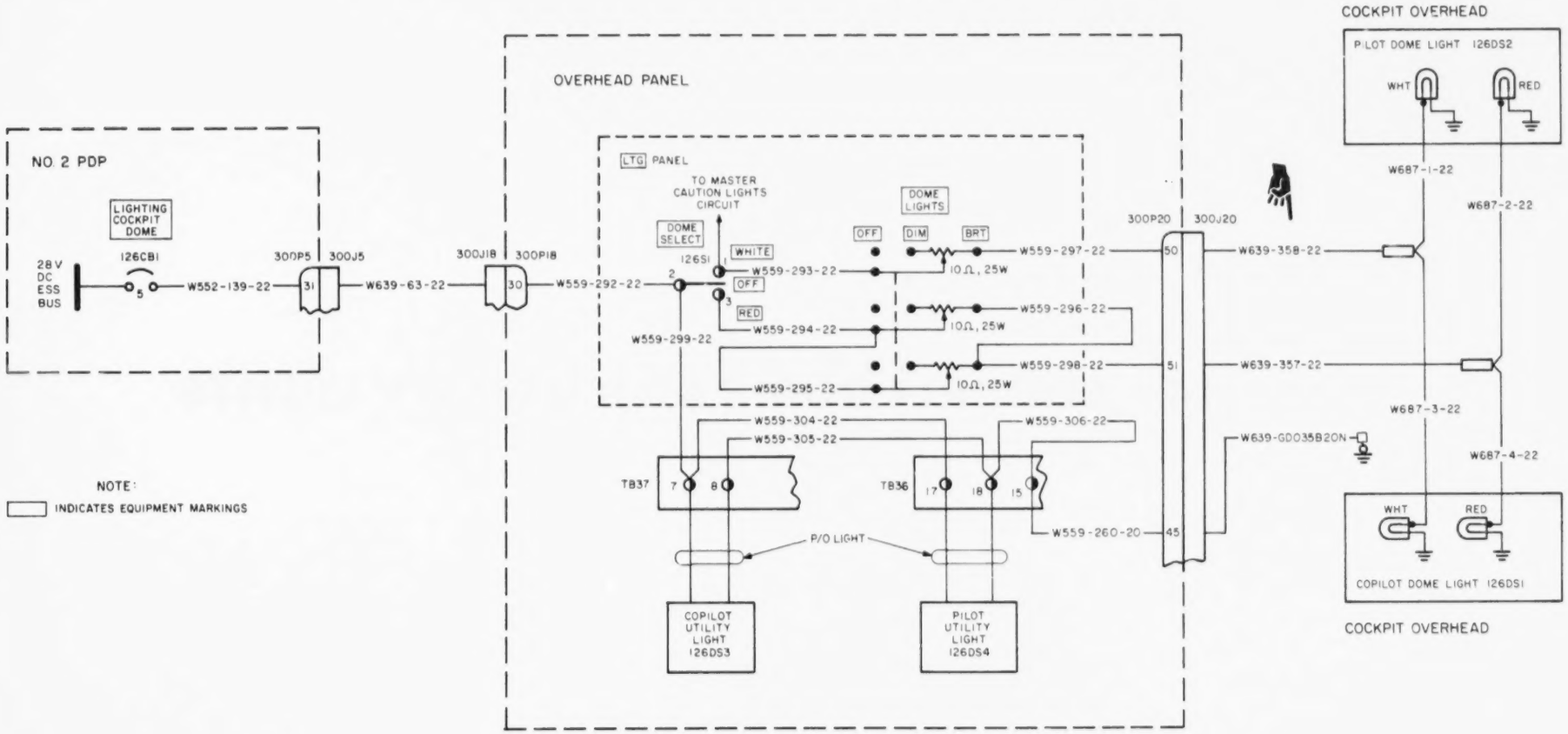
COCKPIT

NO. 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT

10410

END OF TASK

9-14 COCKPIT DOME AND UTILITY LIGHTS



NOTE:
INDICATES EQUIPMENT MARKINGS

126 100C 234 100A

519

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

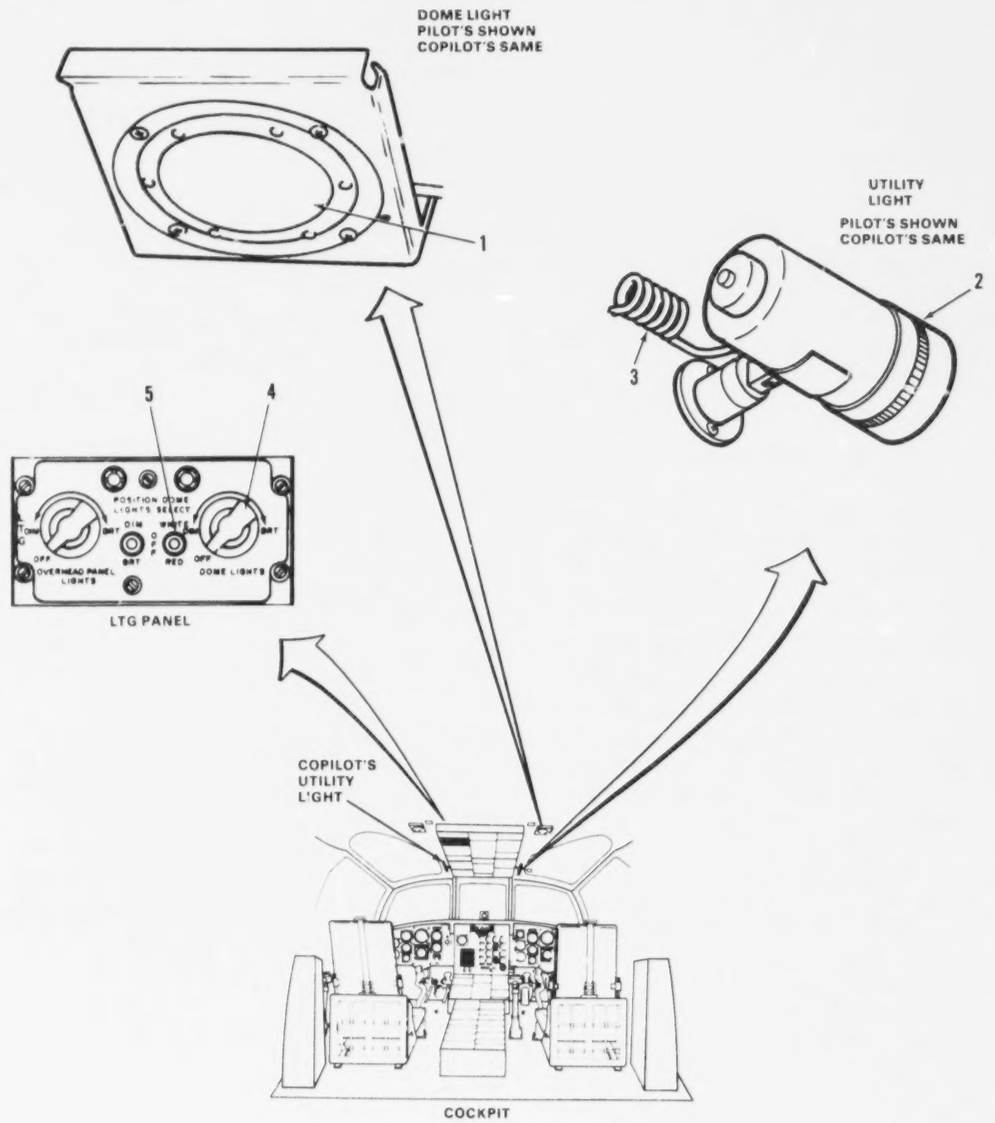
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check pilot's dome light (1).**	If light (1) is loose or damaged, tighten or replace it as required.
2. **Repeat step 1 for copilot's dome light.**	
3. **Check pilot's utility light (2) and cord (3).**	If light (2) is damaged, replace it. If light cord (3) is damaged, replace light.
4. **Repeat step 3 for copilot's utility light and cord.**	
5. **Check DOME LIGHTS control (4) and DOME SELECT switch (5)** on LTG panel.	If control (4) or switch (5) is loose or damaged, tighten or replace it as required.

FOLLOW-ON MAINTENANCE:
None



D145-4169-SPA

9-14.3 COCKPIT DOME AND UTILITY LIGHTS OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
None

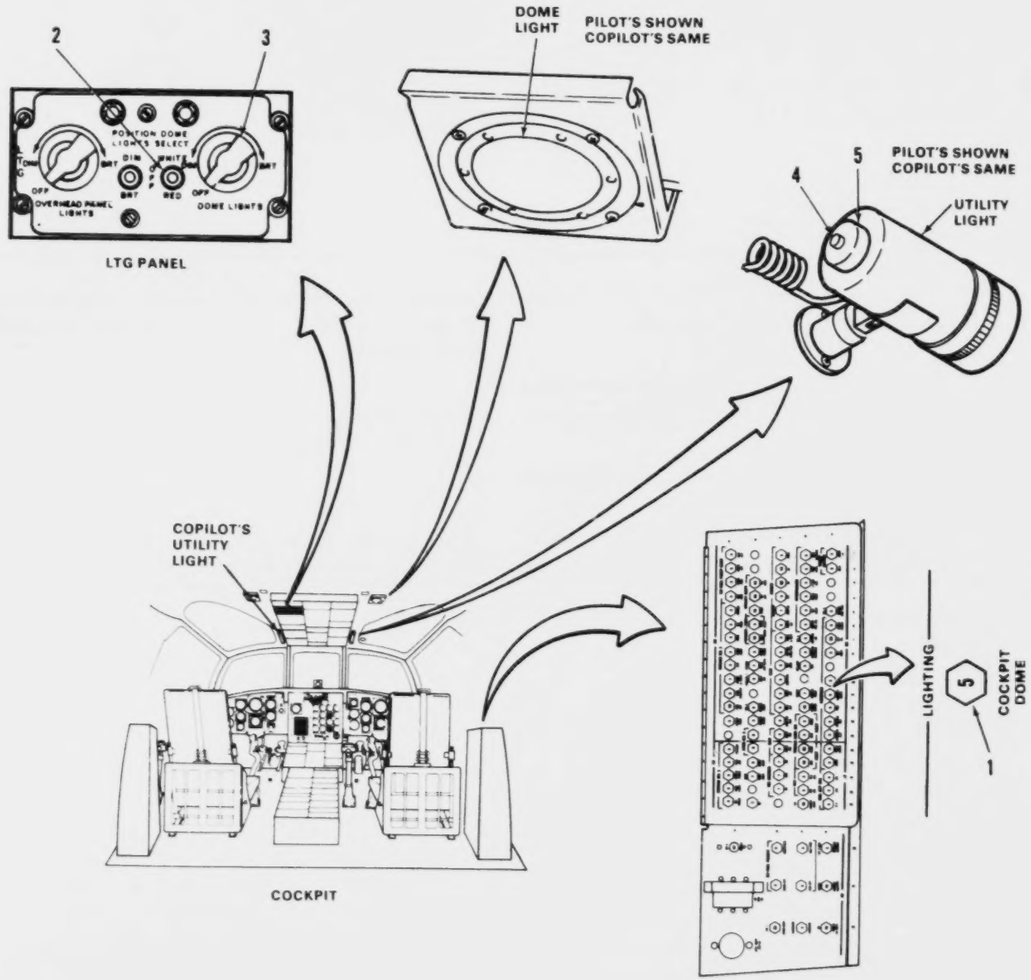
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Cockpit Dome and Utility Lights Visual Check Performed (Task 9-14.2)

TASK	RESULT
1. **Check** that **LIGHTING COCKPIT DOME circuit breaker (1)** is closed.	If COCKPIT DOME circuit breaker (1) is open, close it. If it opens again, go to task 9-14.4.
2. **Set DOME SELECT switch (2) to WHITE. Turn DOME LIGHTS control (3) from OFF through DIM to BRT.**	White light in both dome lights shall come on and increase in brightness as control (3) is turned to BRT. If any dome light is not lit, go to task 9-14.5. If brightness does not increase, replace DOME LIGHTS control (3).
3. **Turn DOME LIGHTS control (3) to OFF.**	Dome lights shall go out. If lights are still on, replace DOME LIGHTS control (3).
4. **Set DOME SELECT switch (2) to RED. Turn DOME LIGHTS control (3) from OFF through DIM to BRT.**	Red light in both dome lights shall come on and increase in brightness as control (3) is turned to BRT. If any dome light is not lit, go to task 9-14.6. If brightness does not increase, replace DOME LIGHTS control (3).
5. **Turn DOME LIGHTS control (3) to OFF.**	Dome lights shall go out. If lights are still on, replace DOME LIGHTS control (3).
6. **Set DOME SELECT switch (2) to OFF.**	
7. **Remove pilot's utility light** from overhead panel bracket. **Press and release switch (4). Turn dimming control (5) through its range.**	Utility light shall blink when switch (4) is pressed and released. Utility light shall increase in brightness as dimming control (5) is turned. If utility light does not come on, go to task 9-14.7. If light comes on but does not increase in brightness, replace utility light.
8. Stow pilot's utility light.	
9. Perform steps 7 and 8 with copilot's utility light.	



FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off

D145-4170-SPA

END OF TASK

9-14.4 COCKPIT DOME CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

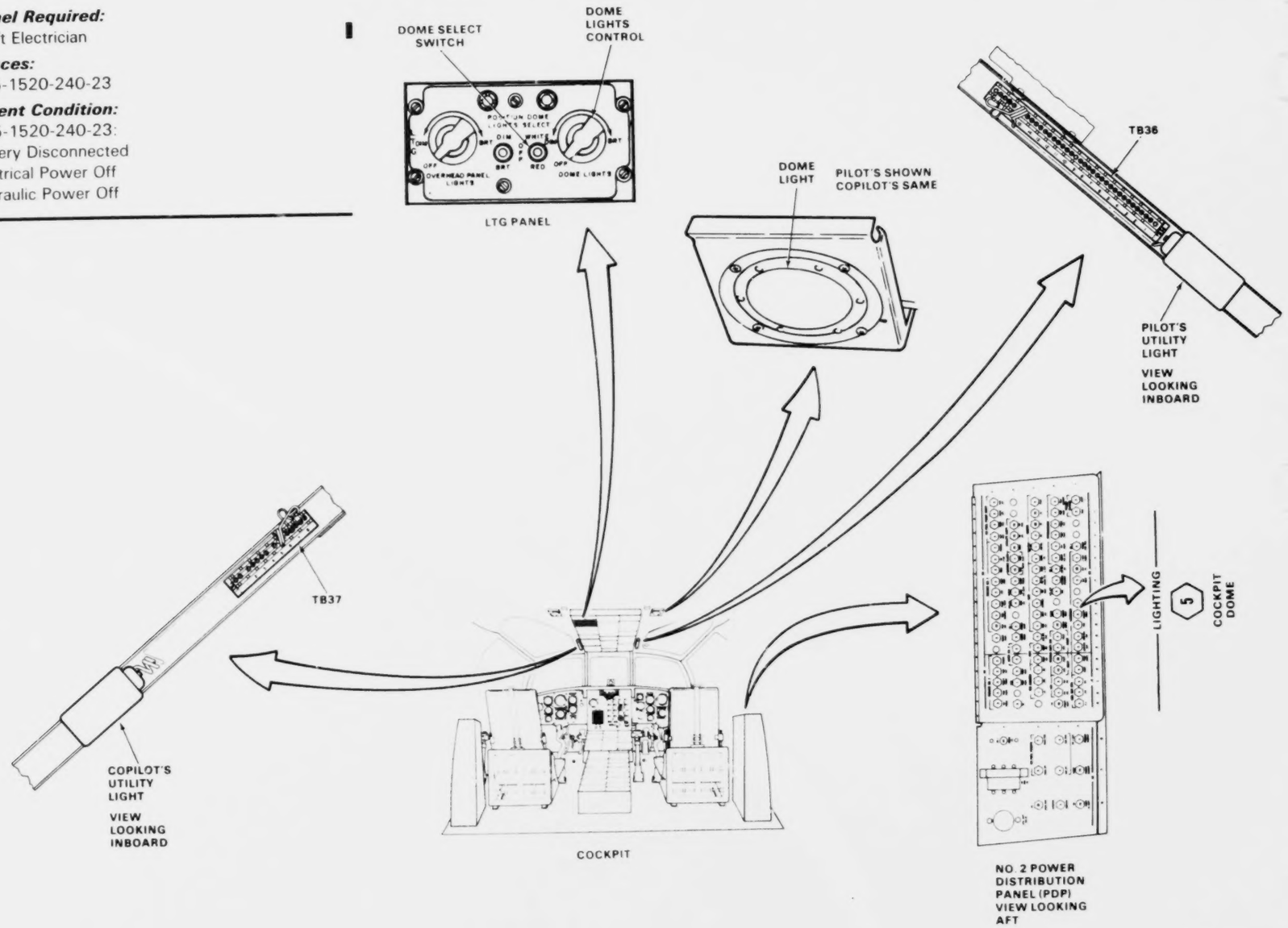
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



DI45-4171-SPA

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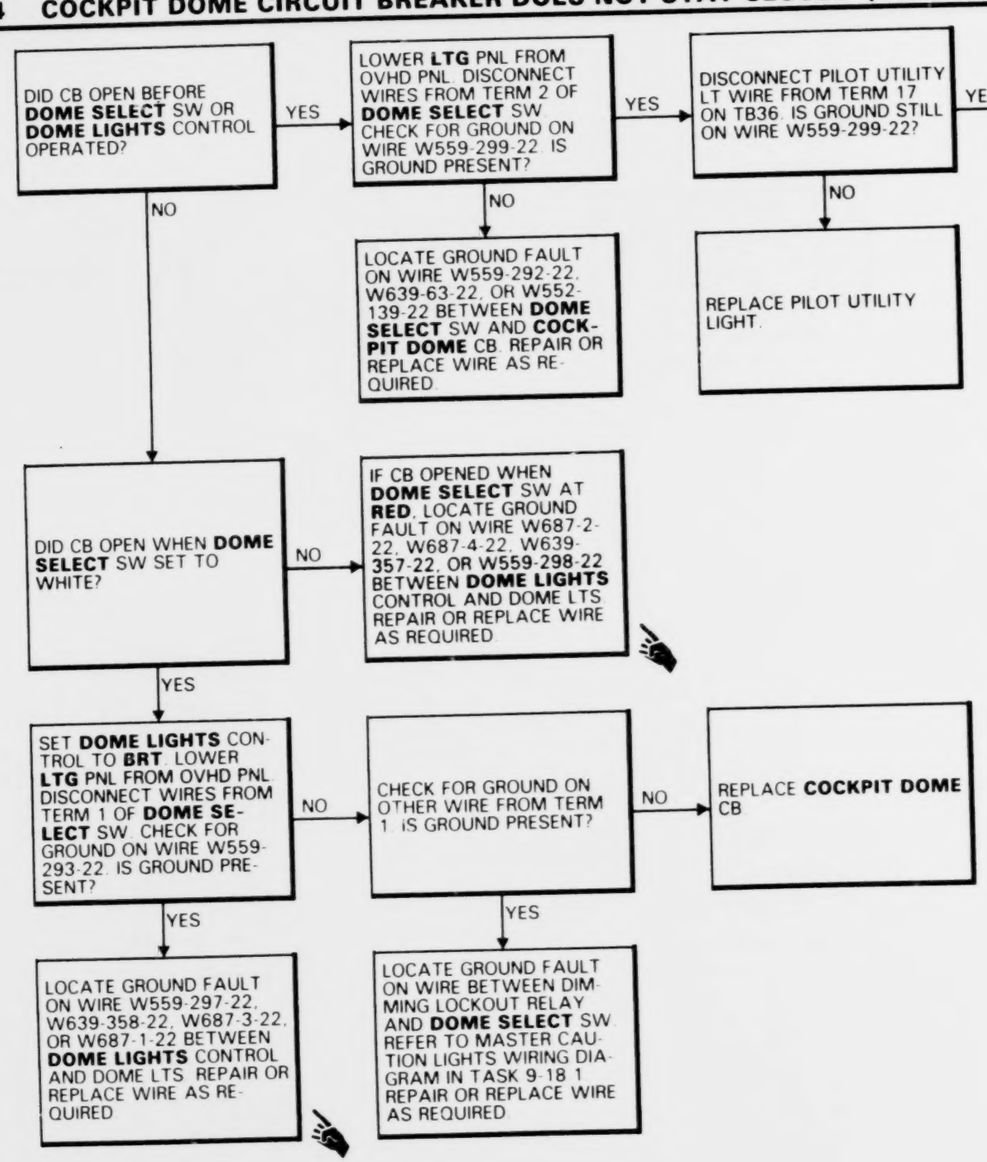
9-14.4 COCKPIT DOME CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)


DID CB OPEN BEFORE **DOME SELECT** SW OR **DOME LIGHTS** CONTROL OPERATED?
YES
LOWER **LTG** PNL FROM OVHD PNL. DISCONNECT WIRES FROM TERM 2 OF **DOME SELECT** SW. CHECK FOR GROUND ON WIRE W559-299-22. IS GROUND PRESENT?
YES
DISCONNECT PILOT UTILITY LT WIRE FROM TERM 17 ON TB36. IS GROUND STILL ON WIRE W559-299-22?
YES
DISCONNECT COPILOT UTILITY LT WIRE FROM TERM 7 ON TB37. IS GROUND STILL ON WIRE W559-299-22?
YES
LOCATE GROUND FAULT ON WIRE W559-299-22 BETWEEN TB37 AND **DOME SELECT** SW. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE GROUND FAULT ON WIRE W559-292-22, W639-63-22, OR W552-139-22 BETWEEN **DOME SELECT** SW AND **COCKPIT DOME** CB. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE PILOT UTILITY LIGHT.
NO
CHECK FOR GROUND ON WIRE W559-304-22 ON TERM 7 ON TB37. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W559-304-22 BETWEEN TB37 AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE COPILOT UTILITY LIGHT.
NO
DID CB OPEN WHEN **DOME SELECT** SW SET TO WHITE?
NO
IF CB OPENED WHEN **DOME SELECT** SW AT **RED**, LOCATE GROUND FAULT ON WIRE W687-2-22, W687-4-22, W639-357-22, OR W559-298-22 BETWEEN **DOME LIGHTS** CONTROL AND DOME LTS REPAIR OR REPLACE WIRE AS REQUIRED.
YES
SET **DOME LIGHTS** CONTROL TO **BRT**. LOWER **LTG** PNL FROM OVHD PNL. DISCONNECT WIRES FROM TERM 1 OF **DOME SELECT** SW. CHECK FOR GROUND ON WIRE W559-293-22. IS GROUND PRESENT?
NO
CHECK FOR GROUND ON OTHER WIRE FROM TERM 1. IS GROUND PRESENT?
NO
REPLACE **COCKPIT DOME** CB
YES
LOCATE GROUND FAULT ON WIRE W559-297-22, W639-358-22, W687-3-22, OR W687-1-22 BETWEEN **DOME LIGHTS** CONTROL AND DOME LTS. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE GROUND FAULT ON WIRE BETWEEN DIMMING LOCKOUT RELAY AND **DOME SELECT** SW. REFER TO MASTER CAUTION LIGHTS WIRING DIAGRAM IN TASK 9-18.1. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-14.5 COCKPIT DOME WHITE LIGHT OR LIGHTS DO NOT COME ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

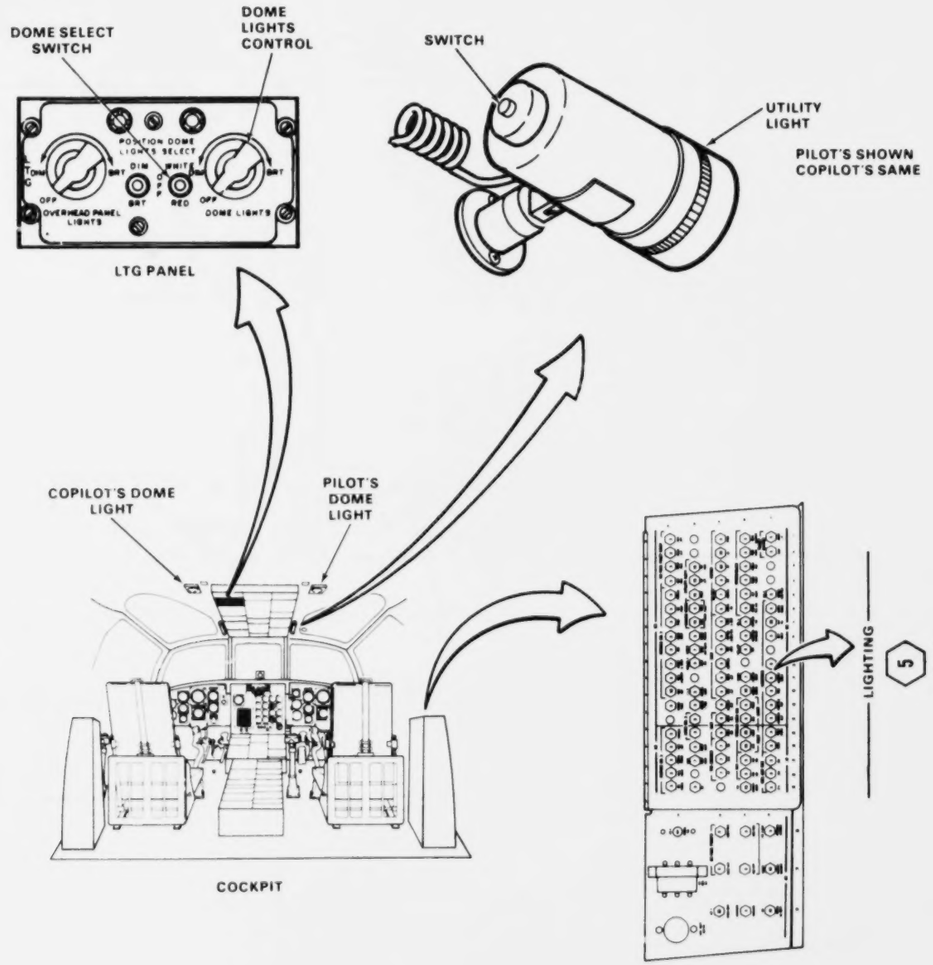
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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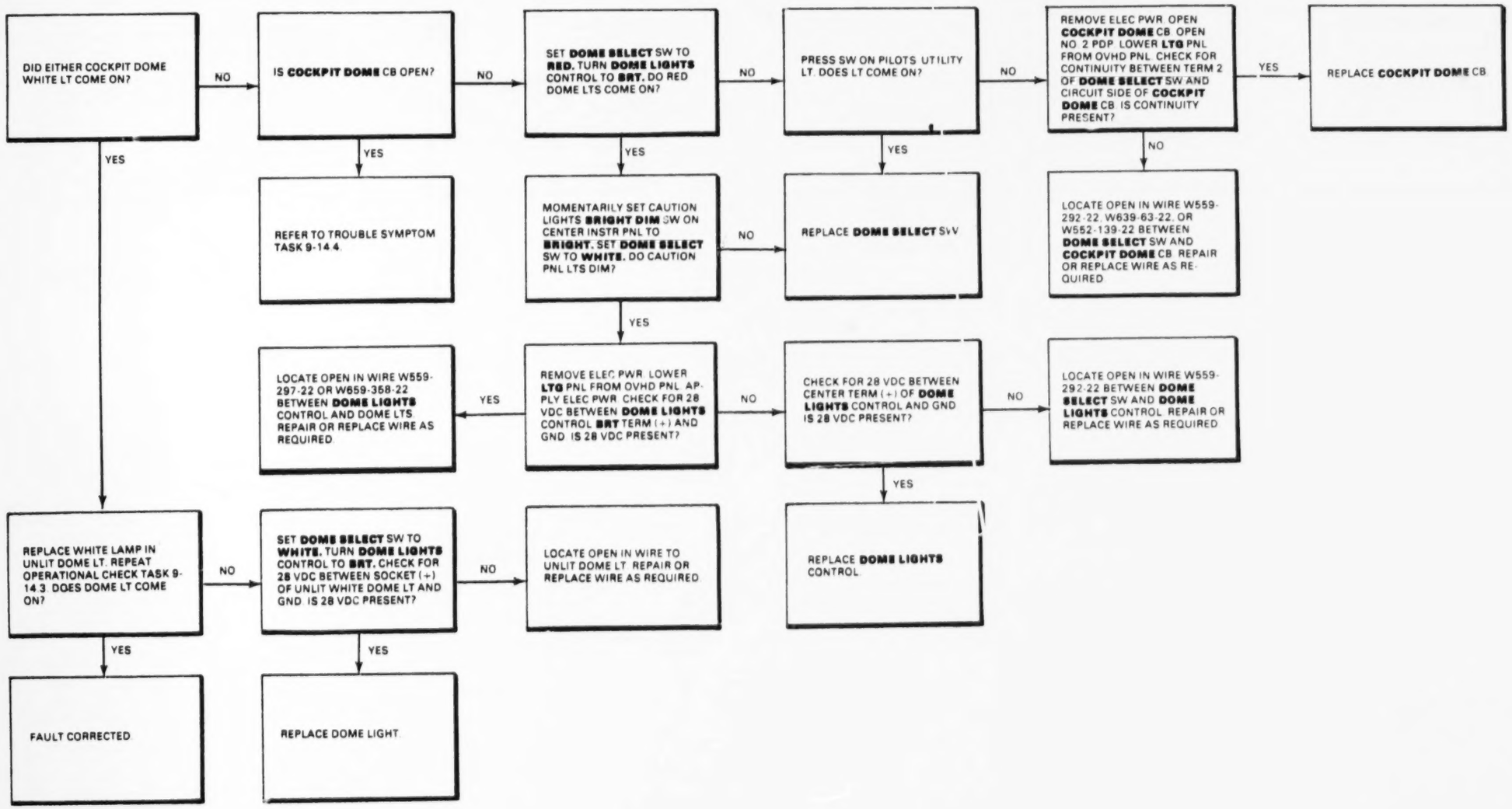
9-14.5 COCKPIT DOME WHITE LIGHT OR LIGHTS DO NOT COME ON (Continued)


DID EITHER COCKPIT DOME WHITE LT COME ON?
NO
IS COCKPIT DOME CB OPEN?
NO
SET DOME SELECT SW TO RED. TURN DOME LIGHTS CONTROL TO BRT. DO RED DOME LTS COME ON?
NO
PRESS SW ON PILOTS UTILITY LT. DOES LT COME ON?
NO
REMOVE ELEC PWR. OPEN COCKPIT DOME CB. OPEN NO. 2 PDP. LOWER LTG PNL FROM OVHD PNL. CHECK FOR CONTINUITY BETWEEN TERM 2 OF DOME SELECT SW AND CIRCUIT SIDE OF COCKPIT DOME CB. IS CONTINUITY PRESENT?
YES
REPLACE COCKPIT DOME CB.
YES
REFER TO TROUBLE SYMPTOM TASK 9-14.4.
YES
MOMENTARILY SET CAUTION LIGHTS BRIGHT DIM SW ON CENTER INSTR PNL TO BRIGHT. SET DOME SELECT SW TO WHITE. DO CAUTION PNL LTS DIM?
NO
REPLACE DOME SELECT SW
YES
NO
LOCATE OPEN IN WIRE W559-292-22, W639-63-22, OR W552-139-22 BETWEEN DOME SELECT SW AND COCKPIT DOME CB. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE OPEN IN WIRE W559-297-22 OR W659-358-22 BETWEEN DOME LIGHTS CONTROL AND DOME LTS. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE ELEC PWR. LOWER LTG PNL FROM OVHD PNL. APPLY ELEC PWR. CHECK FOR 28 VDC BETWEEN DOME LIGHTS CONTROL BRT TERM (+) AND GND. IS 28 VDC PRESENT?
NO
CHECK FOR 28 VDC BETWEEN CENTER TERM (+) OF DOME LIGHTS CONTROL AND GND. IS 28 VDC PRESENT?
NO
LOCATE OPEN IN WIRE W559-292-22 BETWEEN DOME SELECT SW AND DOME LIGHTS CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE DOME LIGHTS CONTROL.
REPLACE WHITE LAMP IN UNLIT DOME LT. REPEAT OPERATIONAL CHECK TASK 9-14.3. DOES DOME LT COME ON?
NO
SET DOME SELECT SW TO WHITE. TURN DOME LIGHTS CONTROL TO BRT. CHECK FOR 28 VDC BETWEEN SOCKET (+) OF UNLIT WHITE DOME LT AND GND. IS 28 VDC PRESENT?
NO
LOCATE OPEN IN WIRE TO UNLIT DOME LT. REPAIR OR REPLACE WIRE AS REQUIRED
YES
FAULT CORRECTED.
YES
REPLACE DOME LIGHT.

END OF TASK

9-14.6 COCKPIT DOME RED LIGHT OR LIGHTS DO NOT COME ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

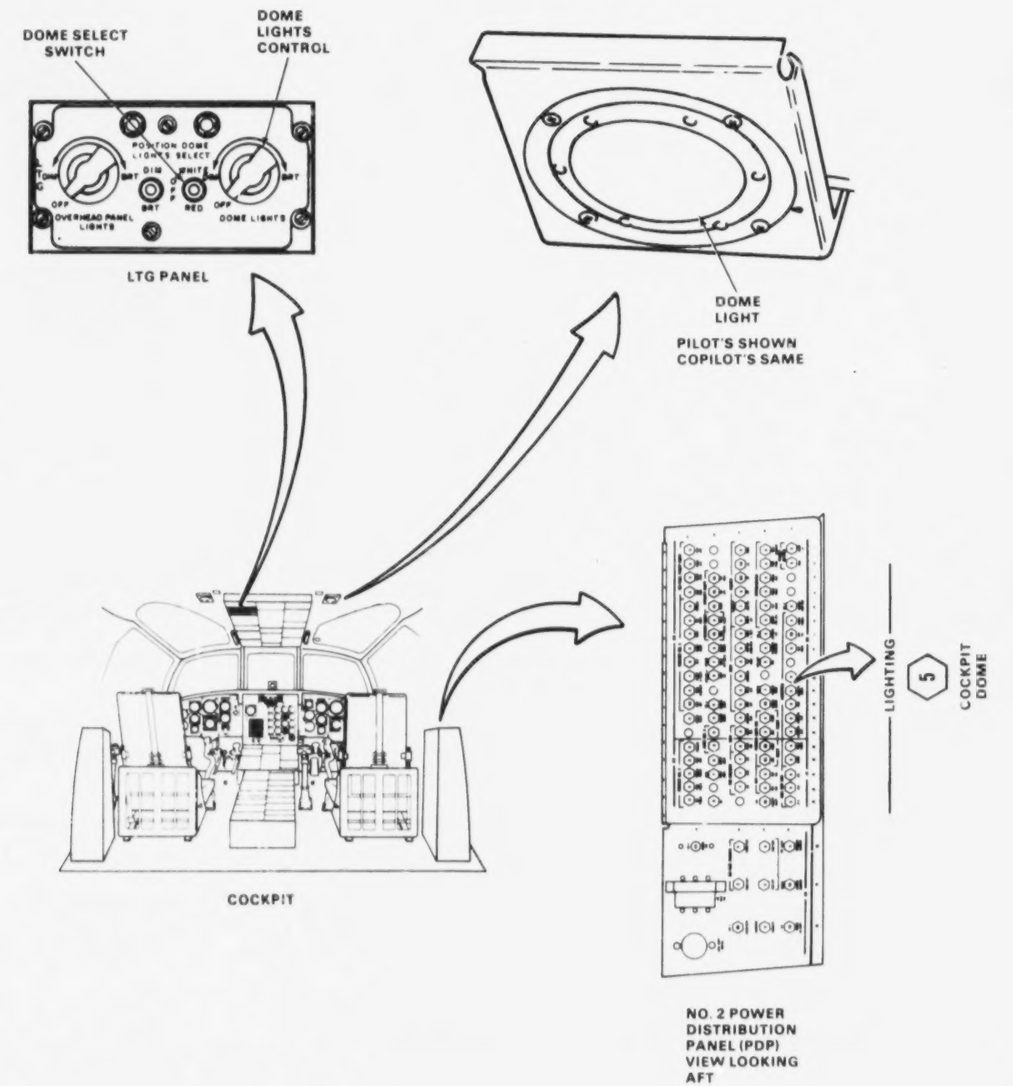
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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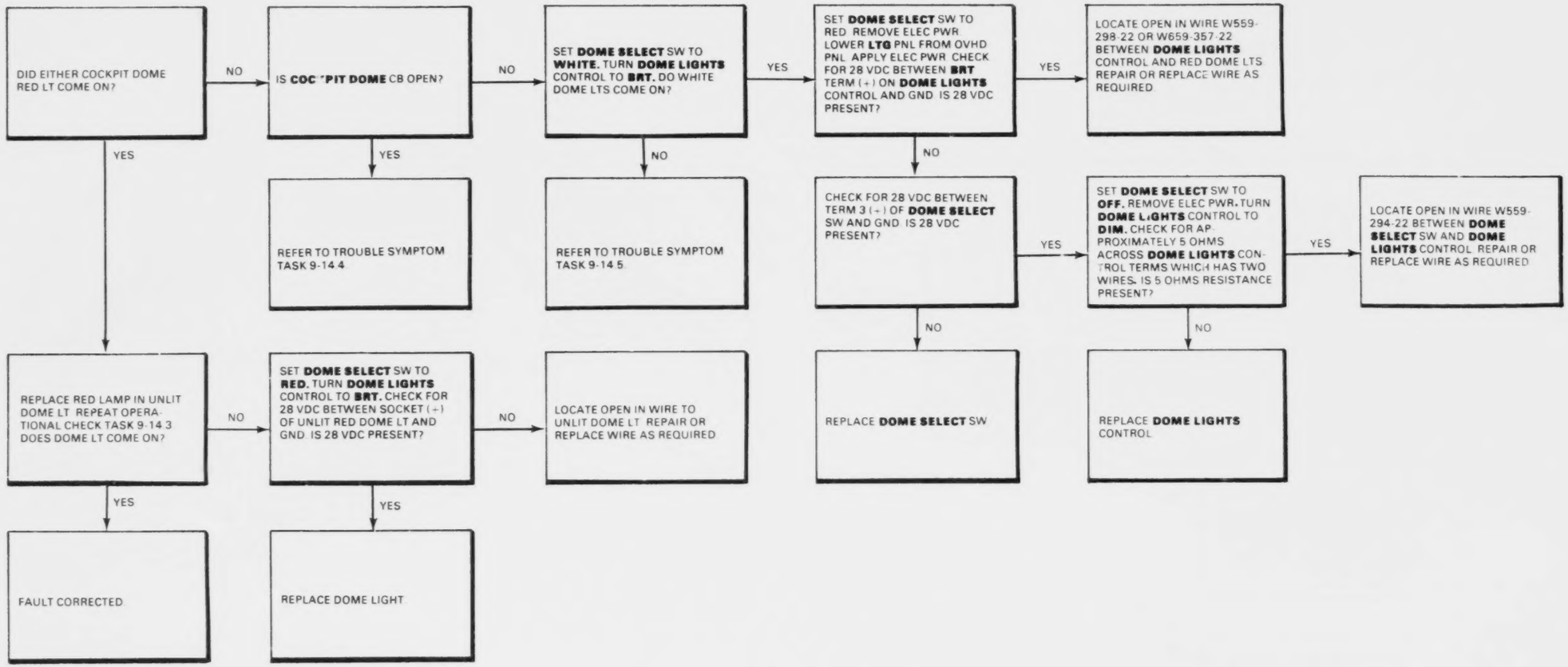
9-14.6 COCKPIT DOME RED LIGHT OR LIGHTS DO NOT COME ON (Continued)


DID EITHER COCKPIT DOME RED LT COME ON?
NO
IS COC "PIT DOME CB OPEN?
NO
SET DOME SELECT SW TO WHITE. TURN DOME LIGHTS CONTROL TO BRT. DO WHITE DOME LTS COME ON?
YES
SET DOME SELECT SW TO RED. REMOVE ELEC PWR. LOWER LTG PNL FROM OVHD PNL. APPLY ELEC PWR. CHECK FOR 28 VDC BETWEEN BRT TERM (+) ON DOME LIGHTS CONTROL AND GND. IS 28 VDC PRESENT?
YES
LOCATE OPEN IN WIRE W559-298-22 OR W659-357-22 BETWEEN DOME LIGHTS CONTROL AND RED DOME LTS. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REFER TO TROUBLE SYMPTOM TASK 9-14.4.
NO
REFER TO TROUBLE SYMPTOM TASK 9-14.5.
NO
CHECK FOR 28 VDC BETWEEN TERM 3 (+) OF DOME SELECT SW AND GND. IS 28 VDC PRESENT?
YES
SET DOME SELECT SW TO OFF. REMOVE ELEC PWR. TURN DOME LIGHTS CONTROL TO DIM. CHECK FOR AP-PROXIMATELY 5 OHMS ACROSS DOME LIGHTS CON-TROL TERMS WHICH HAS TWO WIRES. IS 5 OHMS RESISTANCE PRESENT?
YES
LOCATE OPEN IN WIRE W559-294-22 BETWEEN DOME SELECT SW AND DOME LIGHTS CONTROL. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE DOME SELECT SW.
NO
REPLACE DOME LIGHTS CONTROL.
REPLACE RED LAMP IN UNLIT DOME LT. REPEAT OPERA-TIONAL CHECK TASK 9-14.3. DOES DOME LT COME ON?
NO
SET DOME SELECT SW TO RED. TURN DOME LIGHTS CONTROL TO BRT. CHECK FOR 28 VDC BETWEEN SOCKET (+) OF UNLIT RED DOME LT AND GND. IS 28 VDC PRESENT?
NO
LOCATE OPEN IN WIRE TO UNLIT DOME LT. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
FAULT CORRECTED.
YES
REPLACE DOME LIGHT.

END OF TASK

9-14.7 UTILITY LIGHT OR LIGHTS DO NOT COME ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

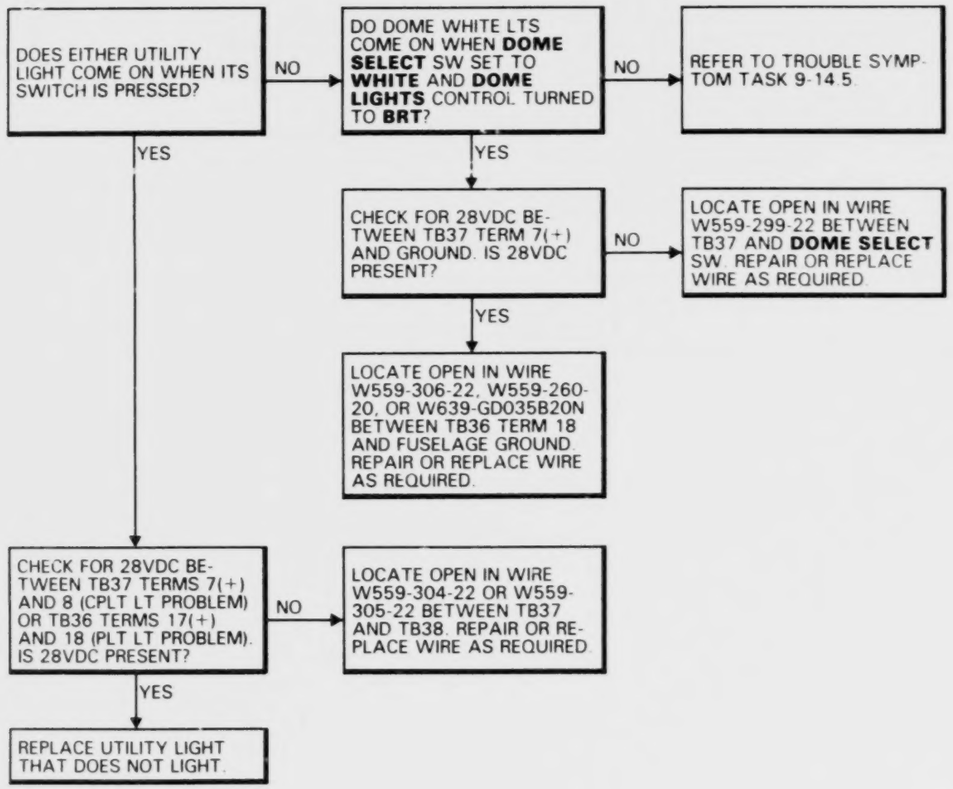
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

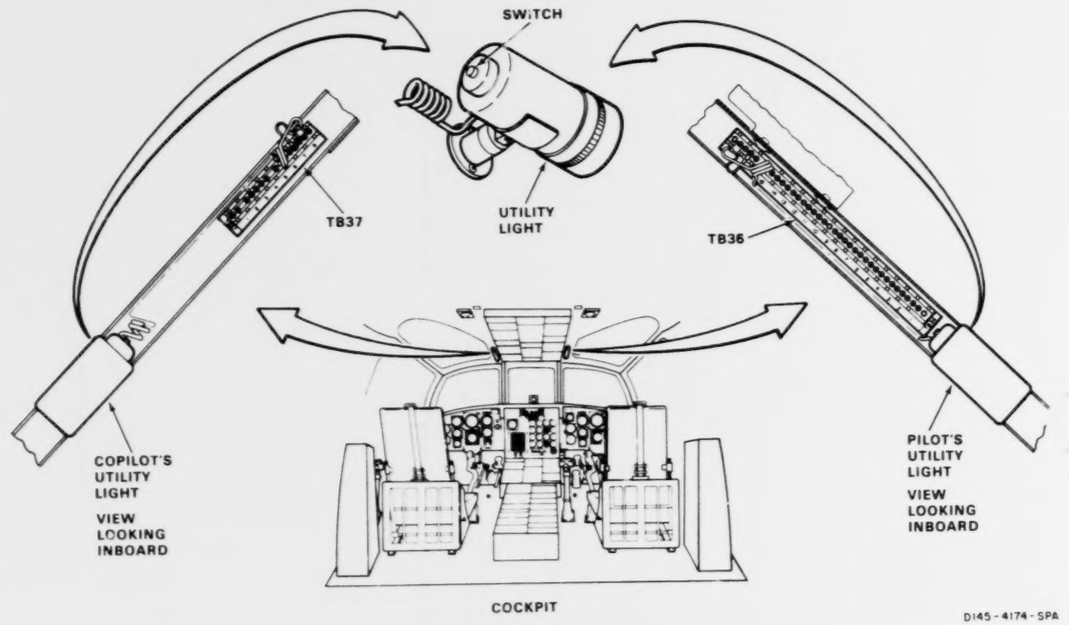
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

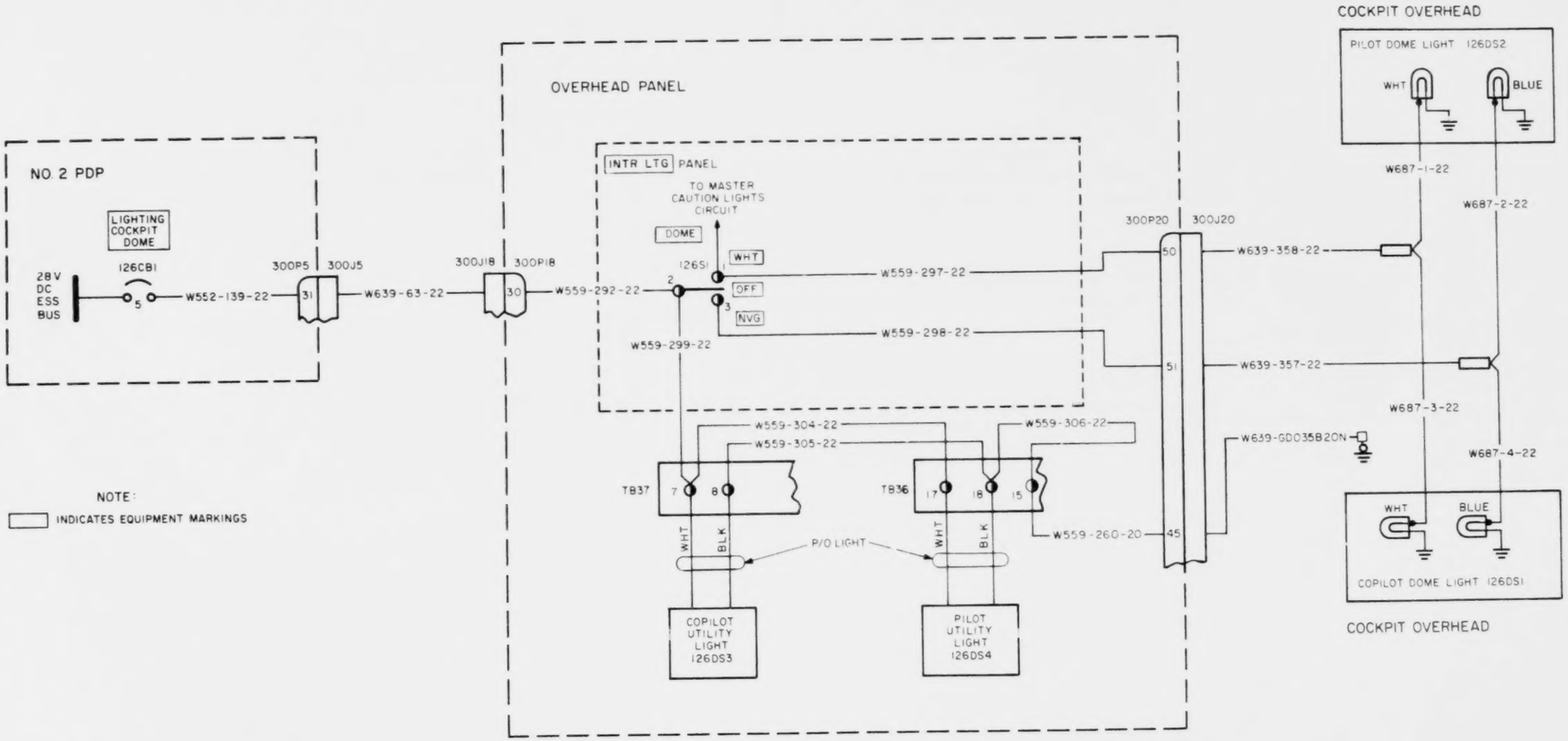
Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off


DOES EITHER UTILITY LIGHT COME ON WHEN ITS SWITCH IS PRESSED?
NO
DO DOME WHITE LTS COME ON WHEN DOME SELECT SW SET TO WHITE AND DOME LIGHTS CONTROL TURNED TO BRT?
NO
REFER TO TROUBLE SYMPTOM TASK 9-14.5
YES
YES
CHECK FOR 28VDC BETWEEN TB37 TERM 7(+) AND GROUND. IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W559-299-22 BETWEEN TB37 AND DOME SELECT SW. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE OPEN IN WIRE W559-306-22, W559-260-20, OR W639-GD035B20N BETWEEN TB36 TERM 18 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR 28VDC BETWEEN TB37 TERMS 7(+) AND 8 (CPLT LT PROBLEM) OR TB36 TERMS 17(+) AND 18 (PLT LT PROBLEM). IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W559-304-22 OR W559-305-22 BETWEEN TB37 AND TB38. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE UTILITY LIGHT THAT DOES NOT LIGHT.



END OF TASK

9-14.8 COCKPIT DOME AND UTILITY LIGHTS WIRING DIAGRAM (WITH 17)



NOTE:

▭ INDICATES EQUIPMENT MARKINGS

126.100F 234.100A

10411

9-14.9 COCKPIT DOME AND UTILITY LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

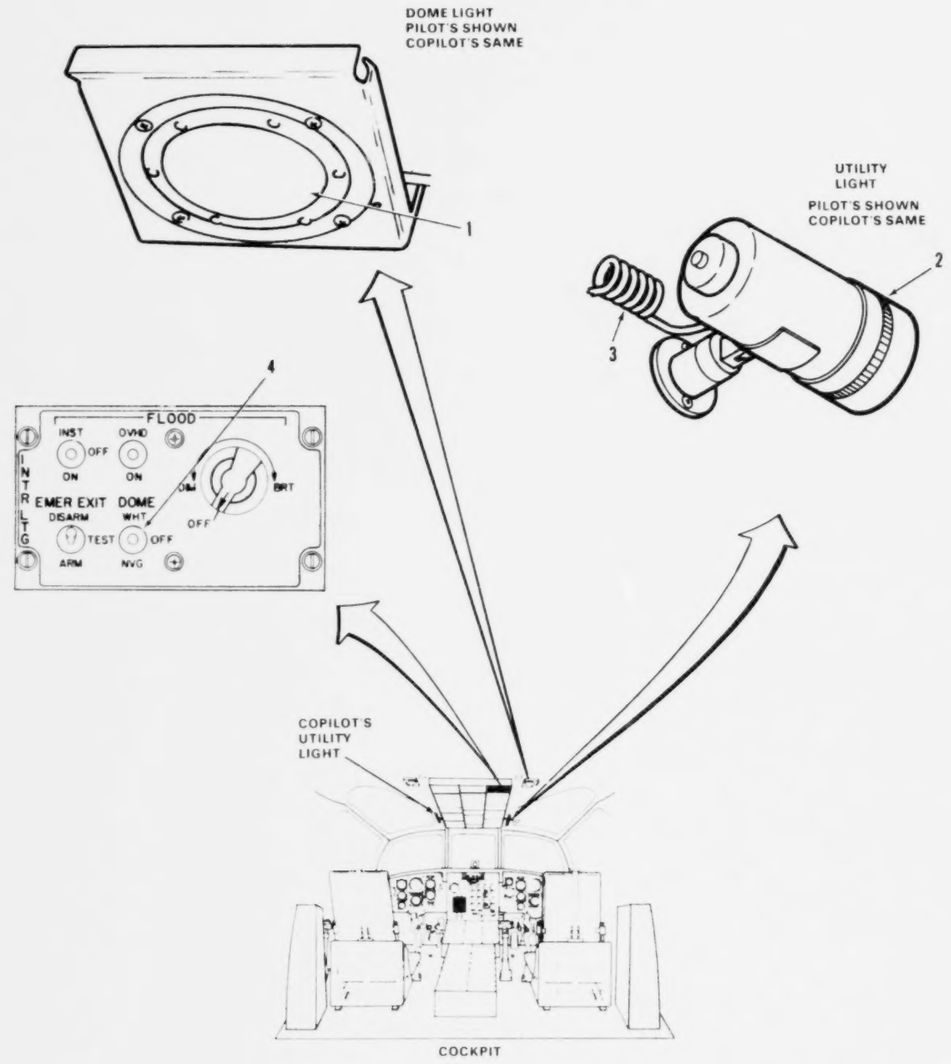
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check pilot's dome light (1).**	If light (1) is loose or damaged, tighten or replace it as required.
2. **Repeat step 1 for copilot's dome light.**	
3. **Check pilot's utility light (2) and cord (3).**	If light (2) is damaged, replace it. If light cord (3) is damaged, replace light.
4. **Repeat step 3 for copilot's utility light and cord.**	
5. **Check DOME switch (4)** on INTR LTG panel.	If switch (4) is loose or damaged, tighten or replace it as required.

FOLLOW-ON MAINTENANCE:
None



END OF TASK

9-14.10 COCKPIT DOME AND UTILITY LIGHTS OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
None

Materials:
None

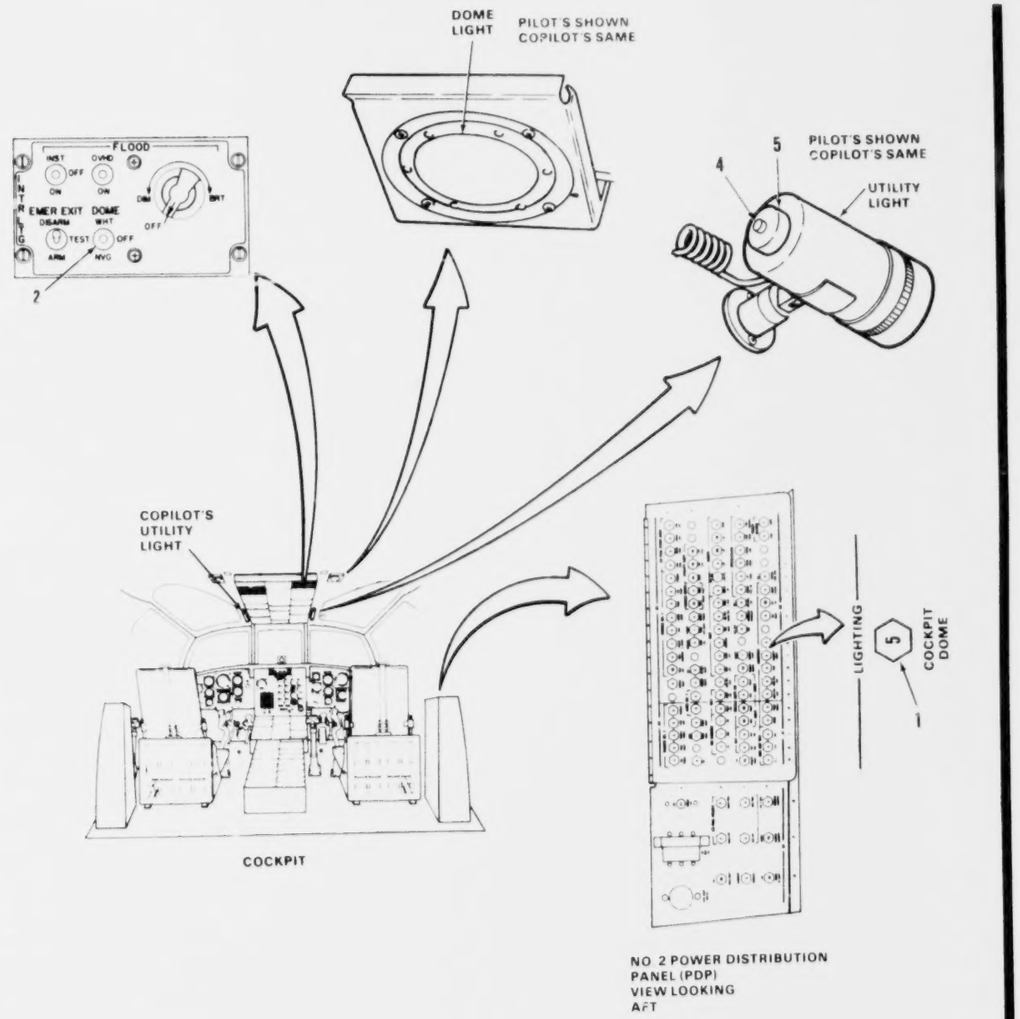
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Cockpit Dome Utility Lights Visual Check Performed (Task 9-14.9)

TASK	RESULT
1. **Check** that **LIGHTING COCKPIT DOME circuit breaker (1)** is closed.	If COCKPIT DOME circuit breaker (1) is open, close it. If it opens again, go to task 9-14.11.
2. **Set DOME switch (2) to WHT.**	White light in both dome lights shall come on. If any dome light is not lit, go to task 9-14.12.
3. **Turn DOME switch (2) to OFF.**	Dome lights shall go out.
4. **Set DOME switch (2) to NVG.**	Blue light in both dome lights shall come on. If any dome light is not lit, go to task 9-14.13.
5. **Set DOME switch (2) to OFF.**	Dome lights shall go out.
6. **Remove pilot's utility light** from overhead panel bracket. **Press and release switch (4). Turn dimming control (5) through its range.**	Utility light shall blink when switch (4) is pressed and released. Utility light shall increase in brightness as dimming control (5) is turned. If utility light does not come on, go to task 9-14.14. If light comes on but does not increase in brightness, replace utility light.
7. Stow pilot's utility light.	
8. Perform steps 6 and 7 with copilot's utility light.	

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off



10413

9-14.11 COCKPIT DOME CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

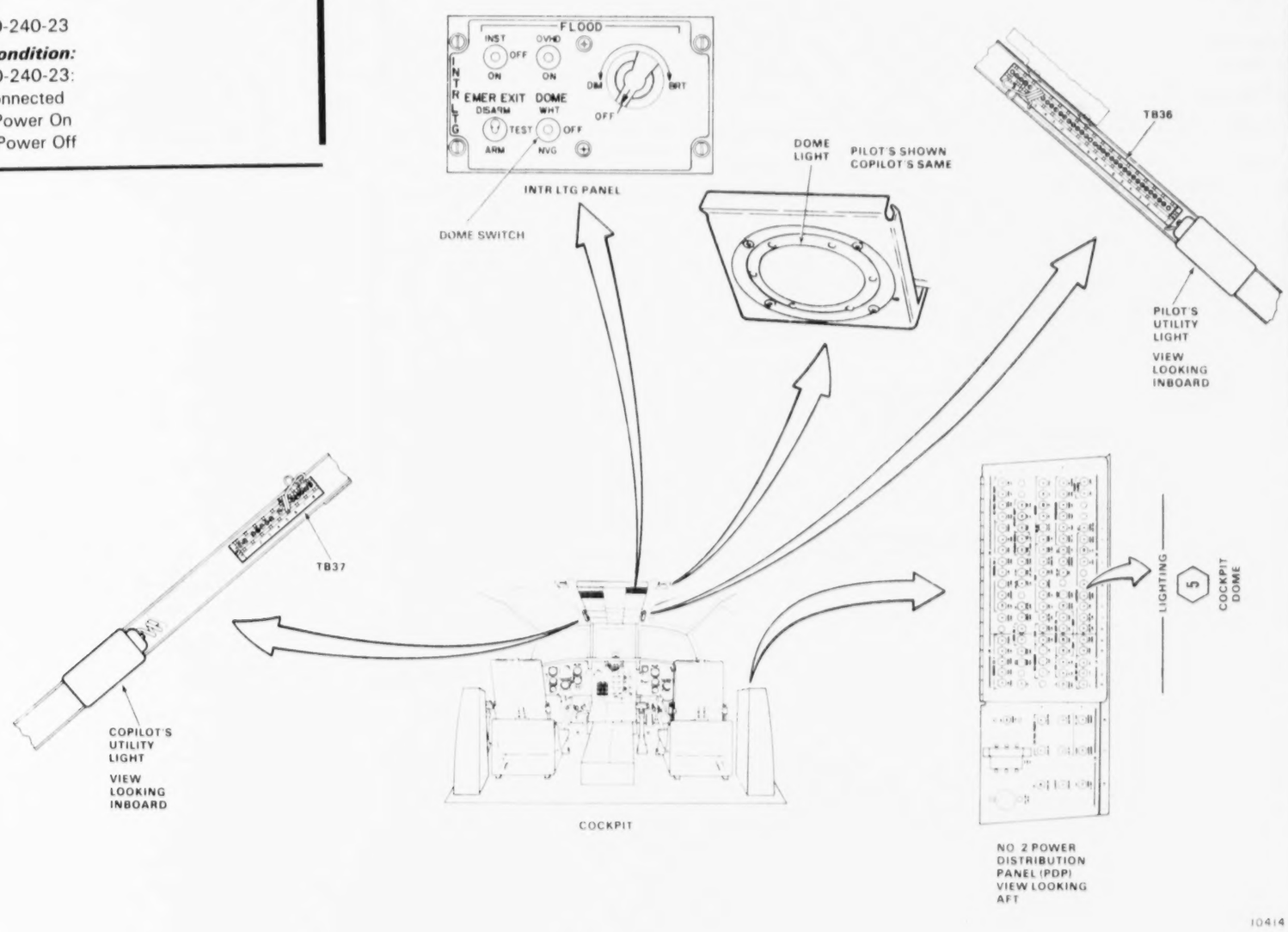
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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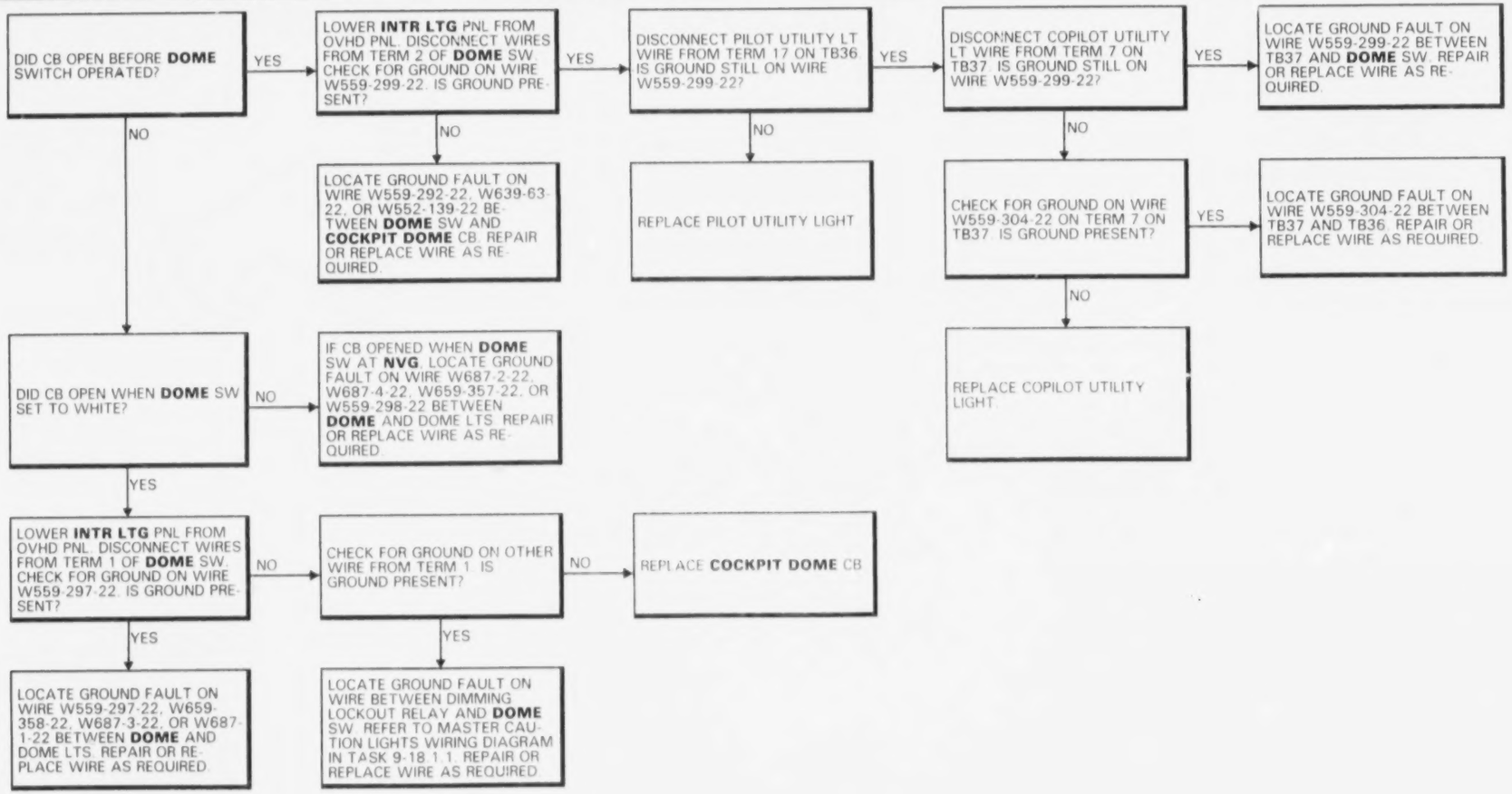
9-14.11 COCKPIT DOME CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)


DID CB OPEN BEFORE DOME SWITCH OPERATED?
YES
LOWER INTR LTG PNL FROM OVHD PNL. DISCONNECT WIRES FROM TERM 2 OF DOME SW. CHECK FOR GROUND ON WIRE W559-299-22. IS GROUND PRESENT?
YES
DISCONNECT PILOT UTILITY LT WIRE FROM TERM 17 ON TB36. IS GROUND STILL ON WIRE W559-299-22?
YES
DISCONNECT COPILOT UTILITY LT WIRE FROM TERM 7 ON TB37. IS GROUND STILL ON WIRE W559-299-22?
YES
LOCATE GROUND FAULT ON WIRE W559-299-22 BETWEEN TB37 AND DOME SW. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE GROUND FAULT ON WIRE W559-292-22, W639-63-22, OR W552-139-22 BETWEEN DOME SW AND COCKPIT DOME CB. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE PILOT UTILITY LIGHT.
NO
CHECK FOR GROUND ON WIRE W559-304-22 ON TERM 7 ON TB37. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W559-304-22 BETWEEN TB37 AND TB36. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE COPILOT UTILITY LIGHT.
NO
DID CB OPEN WHEN DOME SW SET TO WHITE?
NO
IF CB OPENED WHEN DOME SW AT NVG, LOCATE GROUND FAULT ON WIRE W687-2-22, W687-4-22, W659-357-22, OR W559-298-22 BETWEEN DOME AND DOME LTS. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOWER INTR LTG PNL FROM OVHD PNL. DISCONNECT WIRES FROM TERM 1 OF DOME SW. CHECK FOR GROUND ON WIRE W559-297-22. IS GROUND PRESENT?
NO
CHECK FOR GROUND ON OTHER WIRE FROM TERM 1. IS GROUND PRESENT?
NO
REPLACE COCKPIT DOME CB.
YES
LOCATE GROUND FAULT ON WIRE W559-297-22, W659-358-22, W687-3-22, OR W687-1-22 BETWEEN DOME AND DOME LTS. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE GROUND FAULT ON WIRE BETWEEN DIMMING LOCKOUT RELAY AND DOME SW. REFER TO MASTER CAUTION LIGHTS WIRING DIAGRAM IN TASK 9-18.1.1. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-14.12 COCKPIT DOME WHITE LIGHT OR LIGHTS DO NOT COME ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

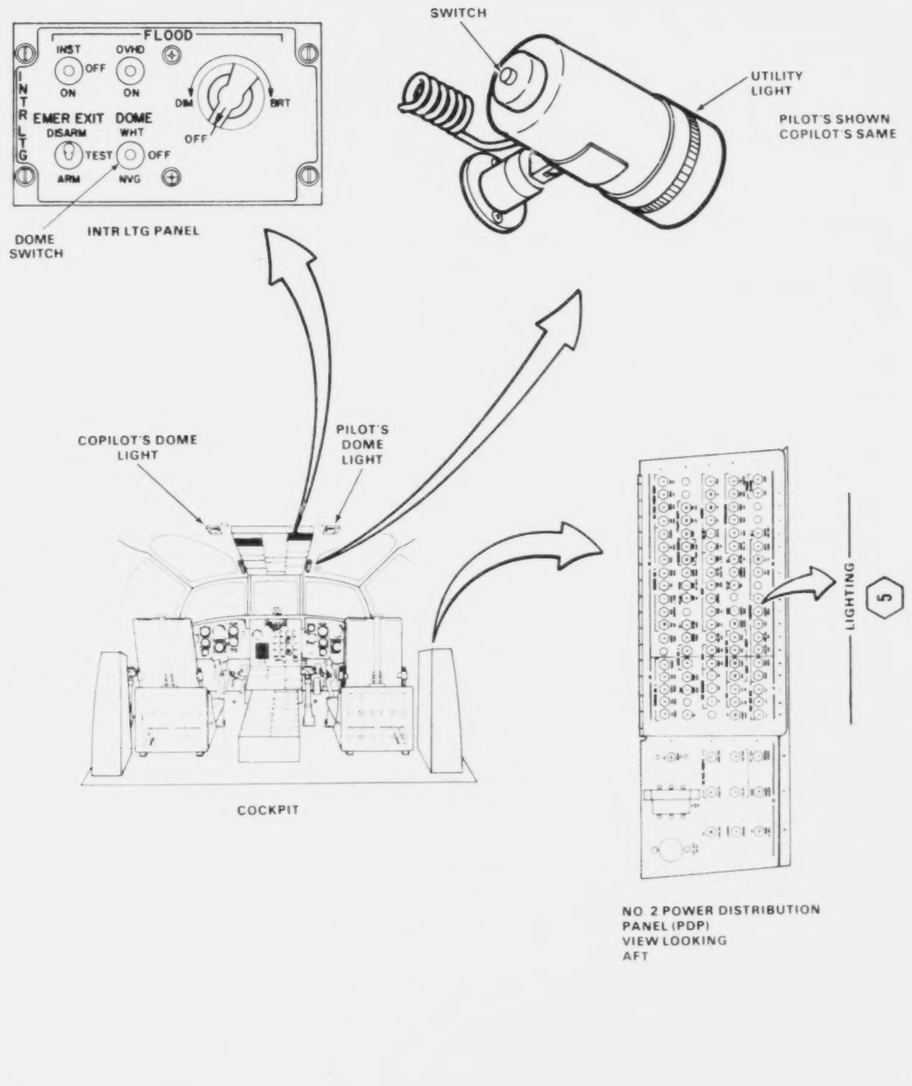
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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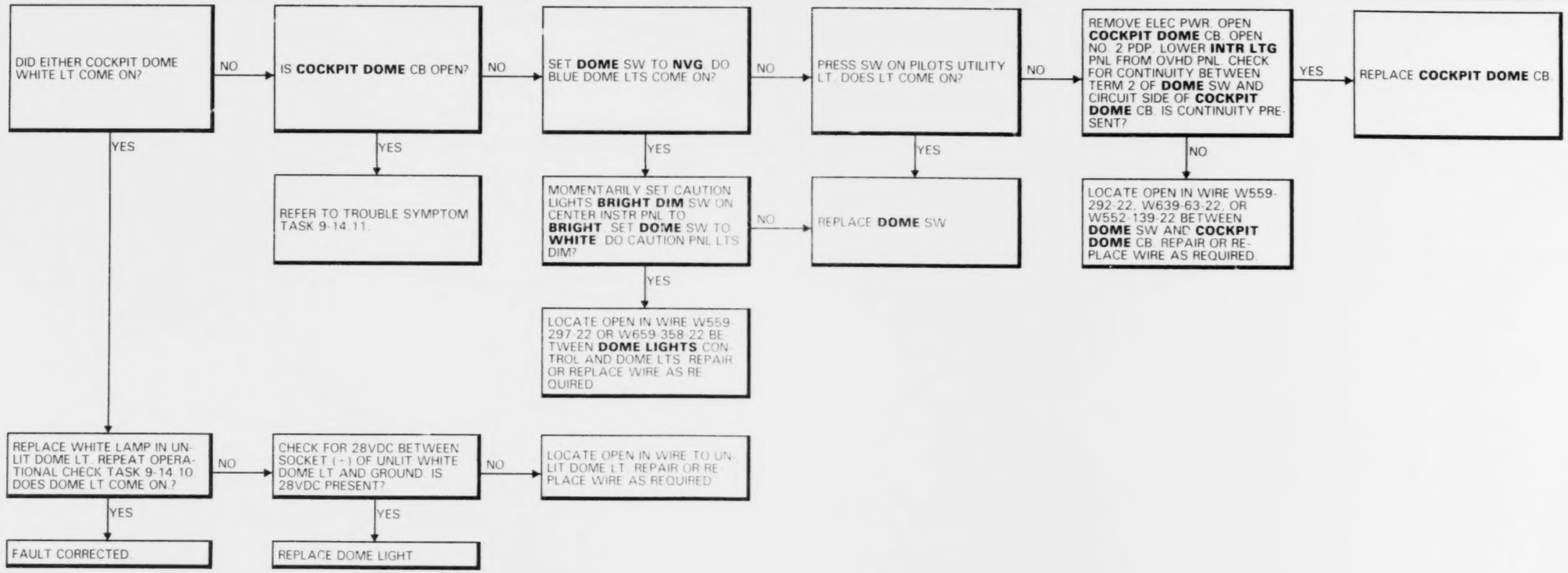
9-14.12 COCKPIT DOME WHITE LIGHT OR LIGHTS DO NOT COME ON (Continued)


DID EITHER COCKPIT DOME WHITE LT COME ON?
NO
IS **COCKPIT DOME** CB OPEN?
NO
SET **DOME** SW TO **NVG**. DO BLUE DOME LTS COME ON?
NO
PRESS SW ON PILOTS UTILITY LT. DOES LT COME ON?
NO
REMOVE ELEC PWR. OPEN **COCKPIT DOME** CB. OPEN NO. 2 PDP. LOWER **INTR LTG** PNL FROM OVHD PNL. CHECK FOR CONTINUITY BETWEEN TERM 2 OF **DOME** SW AND CIRCUIT SIDE OF **COCKPIT DOME** CB. IS CONTINUITY PRESENT?
YES
REPLACE **COCKPIT DOME** CB.
YES
REFER TO TROUBLE SYMPTOM TASK 9-14.11.
YES
MOMENTARILY SET CAUTION LIGHTS **BRIGHT DIM** SW ON CENTER INSTR PNL TO **BRIGHT**. SET **DOME** SW TO **WHITE**. DO CAUTION PNL LTS DIM?
NO
REPLACE **DOME** SW
YES
LOCATE OPEN IN WIRE W559-297-22 OR W659-358-22 BETWEEN **DOME LIGHTS** CONTROL AND DOME LTS. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
YES
NO
LOCATE OPEN IN WIRE W559-292-22, W639-63-22, OR W552-139-22 BETWEEN **DOME** SW AND **COCKPIT DOME** CB. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE WHITE LAMP IN UNLIT DOME LT. REPEAT OPERATIONAL CHECK TASK 9-14.10. DOES DOME LT COME ON?
NO
CHECK FOR 28VDC BETWEEN SOCKET (+) OF UNLIT WHITE DOME LT AND GROUND. IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE TO UNLIT DOME LT. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
YES
FAULT CORRECTED.
REPLACE DOME LIGHT.

END OF TASK

9-14.13 COCKPIT DOME NVG LIGHT OR LIGHTS DO NOT COME ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

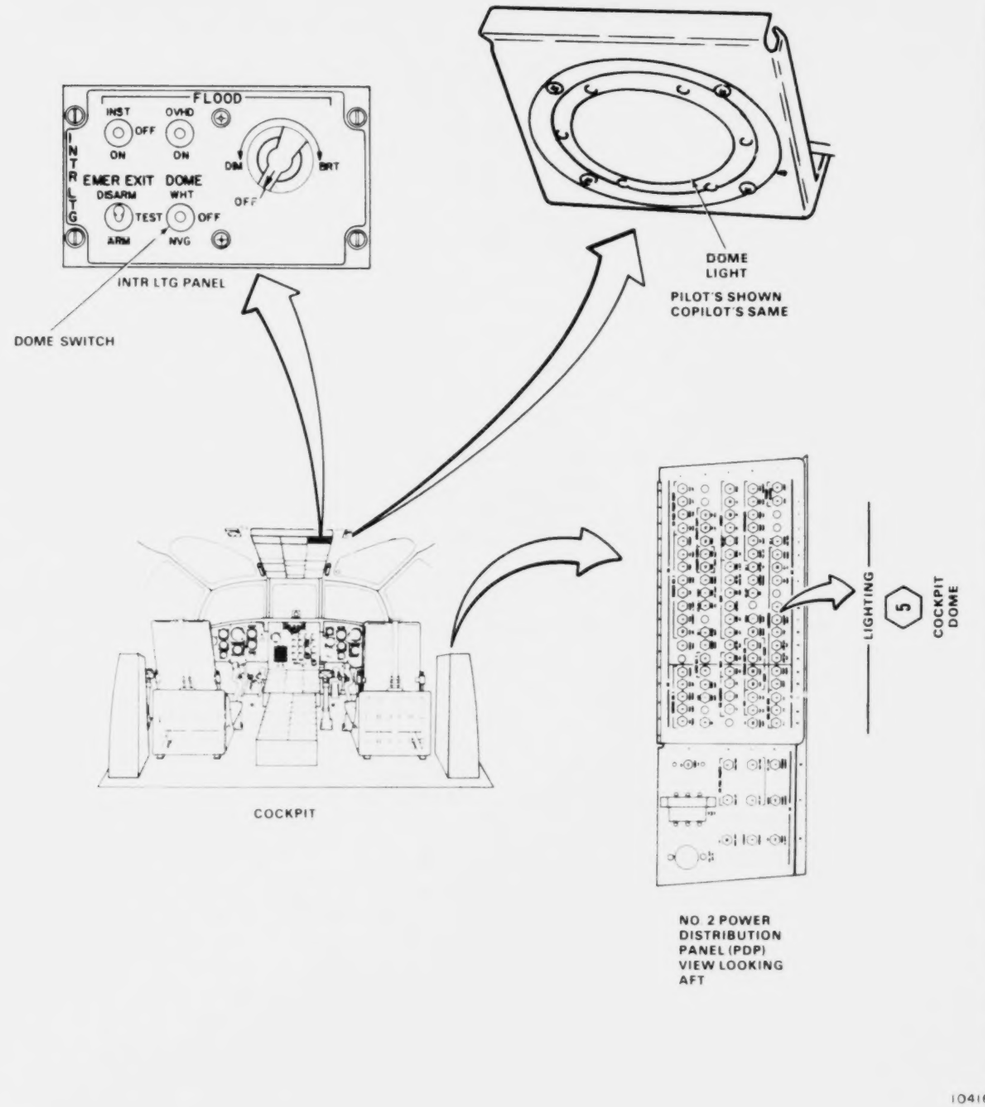
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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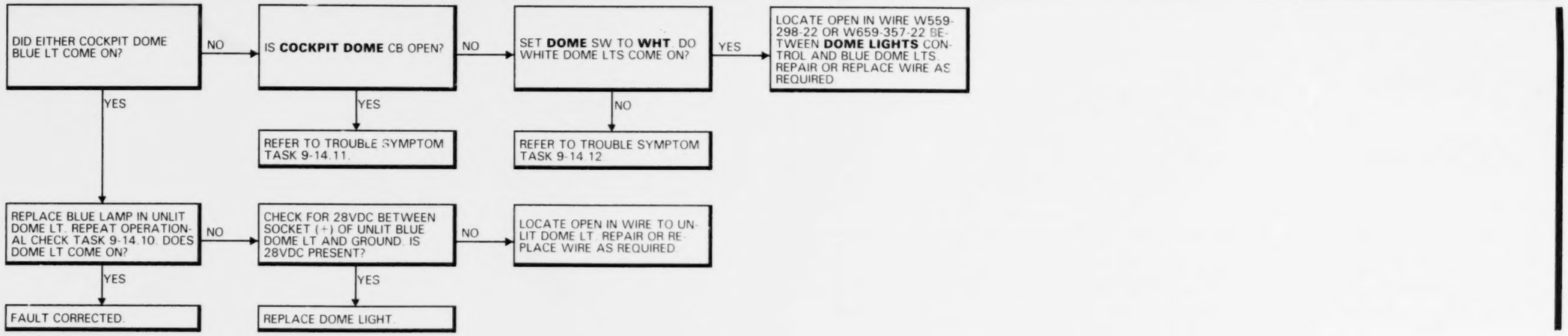
9-14.13 COCKPIT DOME NVG LIGHT OR LIGHTS DO NOT COME ON (Continued)


DID EITHER COCKPIT DOME BLUE LT COME ON?
NO
IS **COCKPIT DOME** CB OPEN?
NO
SET **DOME** SW TO **WHT**. DO WHITE DOME LTS COME ON?
YES
LOCATE OPEN IN WIRE W559-298-22 OR W659-357-22 BETWEEN **DOME LIGHTS** CONTROL AND BLUE DOME LTS. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REFER TO TROUBLE SYMPTOM TASK 9-14.11.
NO
REFER TO TROUBLE SYMPTOM TASK 9-14.12
YES
REPLACE BLUE LAMP IN UNLIT DOME LT. REPEAT OPERATIONAL CHECK TASK 9-14.10. DOES DOME LT COME ON?
NO
CHECK FOR 28VDC BETWEEN SOCKET (+) OF UNLIT BLUE DOME LT AND GROUND. IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE TO UNLIT DOME LT. REPAIR OR REPLACE WIRE AS REQUIRED
YES
FAULT CORRECTED.
YES
REPLACE DOME LIGHT.

END OF TASK

9-14.14 UTILITY LIGHT OR LIGHTS DO NOT COME ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

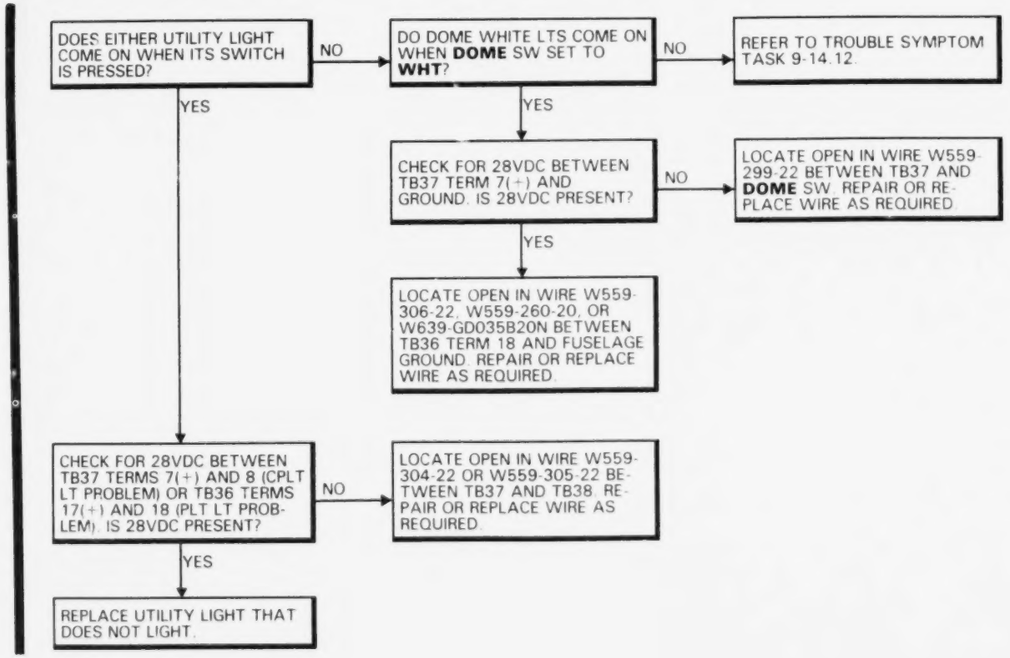
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

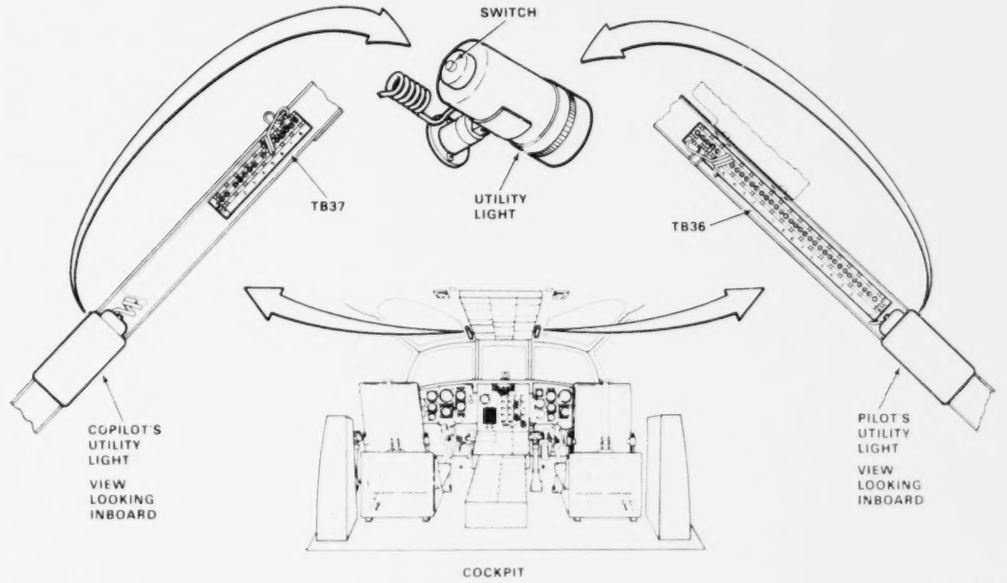
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off


DOES EITHER UTILITY LIGHT COME ON WHEN ITS SWITCH IS PRESSED?
NO
DO DOME WHITE LTS COME ON WHEN DOME SW SET TO WHT?
NO
REFER TO TROUBLE SYMPTOM TASK 9-14.12.
YES
YES
CHECK FOR 28VDC BETWEEN TB37 TERM 7(+) AND GROUND. IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W559-299-22 BETWEEN TB37 AND DOME SW. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
LOCATE OPEN IN WIRE W559-306-22, W559-260-20, OR W639-GD035B20N BETWEEN TB36 TERM 18 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR 28VDC BETWEEN TB37 TERMS 7(+) AND 8 (CPLT LT PROBLEM) OR TB36 TERMS 17(+) AND 18 (PLT LT PROBLEM). IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W559-304-22 OR W559-305-22 BETWEEN TB37 AND TB38. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE UTILITY LIGHT THAT DOES NOT LIGHT.



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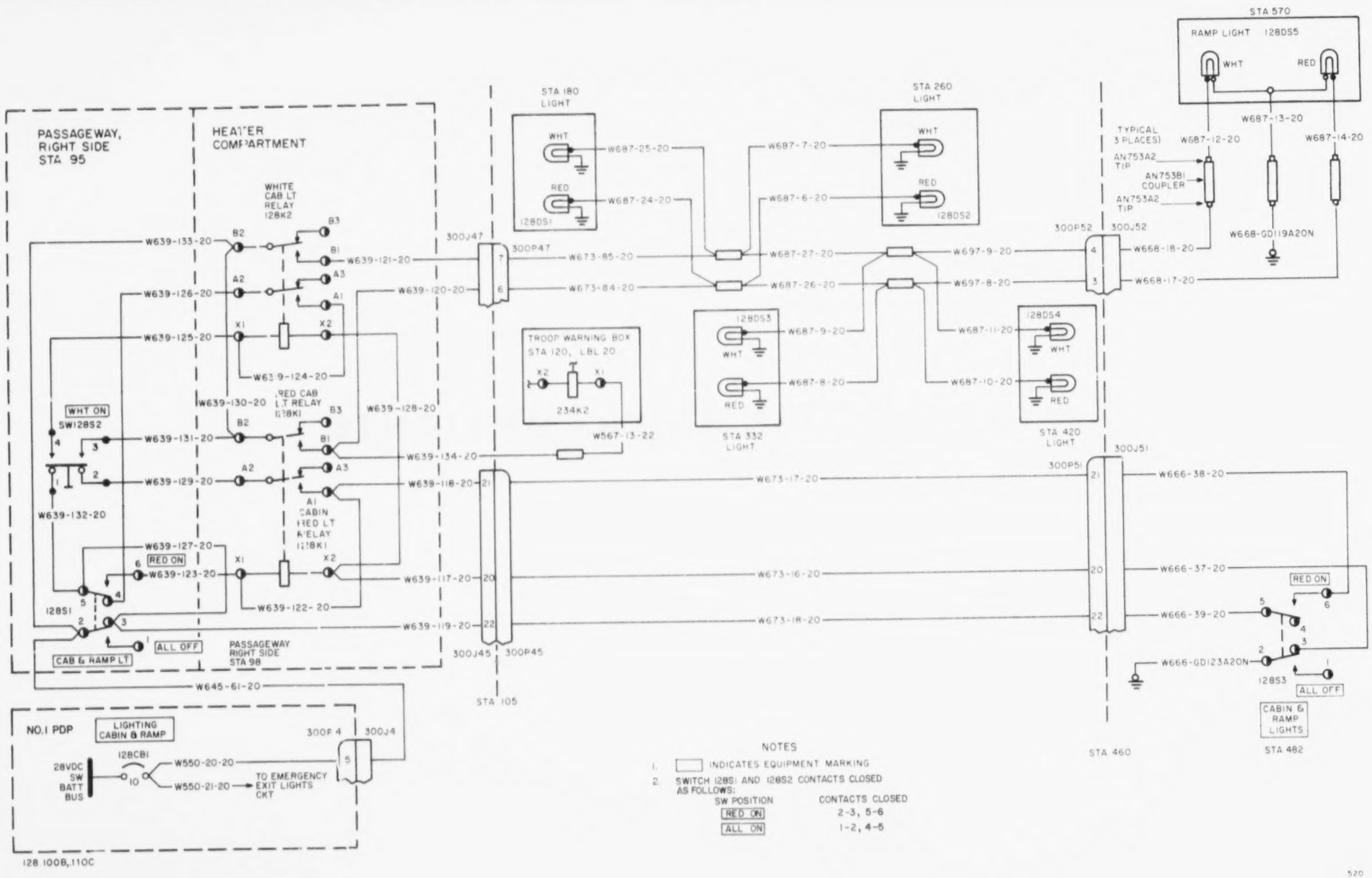
END OF TASK

9-15 CABIN AND RAMP LIGHTS



NOTES

1. [ ] INDICATES EQUIPMENT MARKING
2. SWITCH 128S1 AND 128S2 CONTACTS CLOSED AS FOLLOWS:

SW POSITION	CONTACTS CLOSED
RED ON	2-3, 5-6
ALL ON	1-2, 4-5

520

9-15.2 CABIN AND RAMP LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

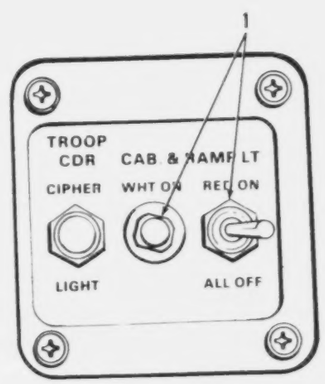
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

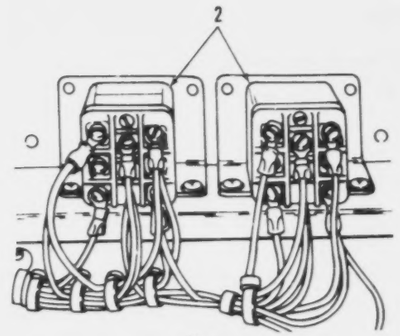
Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Heater Compartment Acoustic Blanket Removed

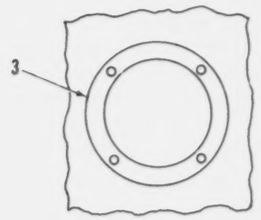
TASK	RESULT
1. **Check two CAB & RAMP LT switches (1).**	If either switch (1) is loose or damaged, tighten or replace it as required.
2. **Check two relays (2) and back of switches (1).**	If either relay (2) or switch (1) is loose or damaged, tighten or replace it as required. If wiring is loose or damaged, tighten, repair, or replace it as required.
3. **Check ramp dome and four cabin dome lights (3).**	If any dome light (3) is loose or damaged, tighten or replace it as required.
4. **Check CABIN & RAMP LIGHTS switch (4).**	If switch (4) is loose or damaged, tighten or replace it as required. If wiring is loose or damaged, tighten, repair, or replace it as required.

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Install Heater Compartment Acoustic Blanket

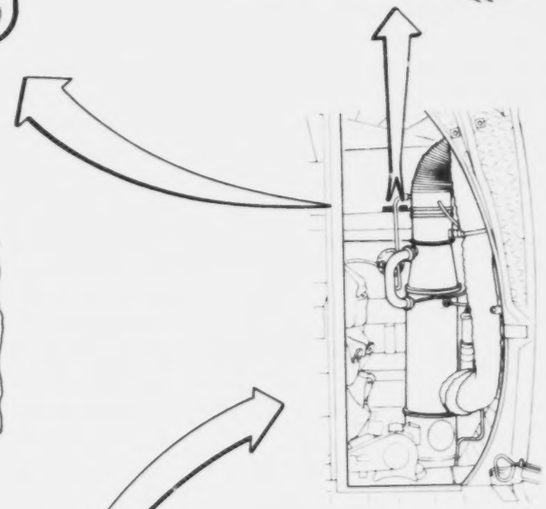


VIEW LOOKING OUTBOARD PASSAGEWAY RIGHT SIDE AT STA 98

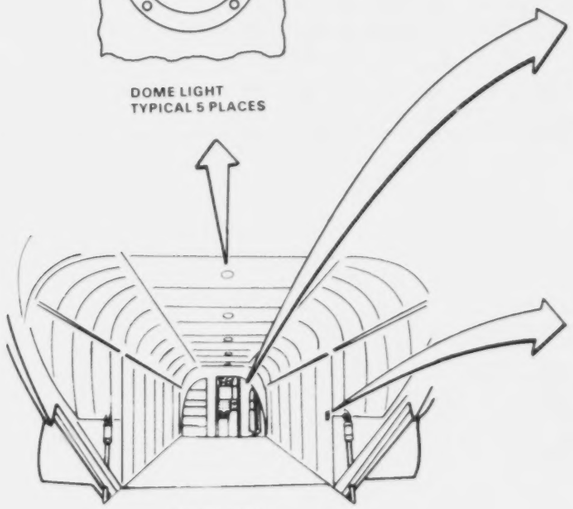




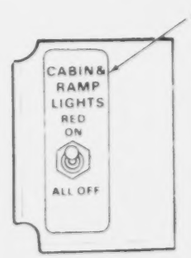
DOME LIGHT
TYPICAL 5 PLACES



HEATER COMPARTMENT



CABIN VIEW



VIEW LOOKING OUTBOARD RIGHT SIDE AT STA 482

END OF TASK

9-15.3 CABIN AND RAMP LIGHTS OPERTIONAL CHECK

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
None

Materials:
None

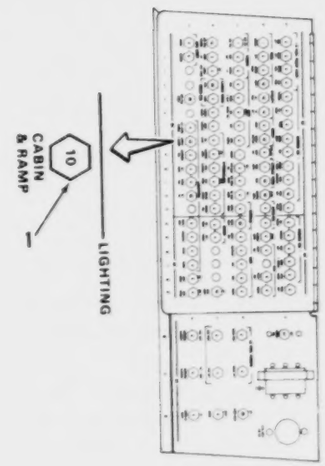
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

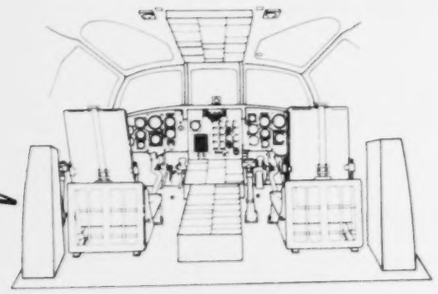
Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Visual Check of Cabin and Ramp Lights Performed (Task 9-15.2)

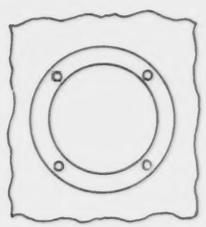
TASK	RESULT
1. **Check** that **LIGHTING CABIN & RAMP circuit breaker (1)** is closed.	If CABIN & RAMP circuit breaker (1) is open, close it. If it opens again, go to task 9-15.4.
2. **Press and release CAB & RAMP LT WHT ON pushbutton (2).**	All five dome white lights shall come on. If any light is not lit, go to task 9-15.5.
3. **Momentarily set CAB & RAMP LT switch (3) to ALL OFF.**	All dome white lights shall go out. If lights do not go out, go to task 9-15.6.
4. **Momentarily set CAB & RAMP LT switch (3) to RED ON.**	All five dome red lights shall come on. If any light is not lit, go to task 9-15.7.
5. **Press and release CAB & RAMP LT WHT ON pushbutton (2).**	All dome red lights shall go out and all dome white lights shall come on. If both red and white dome lights are lit, locate and repair shorted wiring between WHT ON switch (2) and cabin red light relay.
6 **Momentarily set CABIN & RAMP LIGHTS switch (4) to ALL OFF.**	All dome white lights shall go out. If lights do not go out, go to task 9-15.8.
7. **Momentarily set CABIN & RAMP LIGHTS switch (4) to RED ON.**	All dome red lights shall come on. If lights are not lit, go to task 9-15.9.
8. **Momentarily set CABIN & RAMP LIGHTS switch (4) to ALL OFF.**	All dome red lights shall go out. If lights do not go out, go to task 9-15.8.

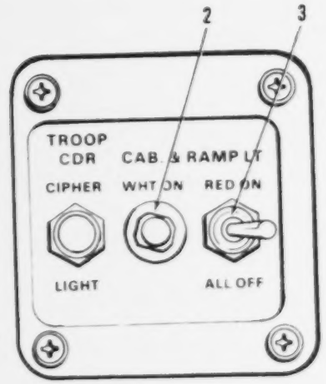
FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off



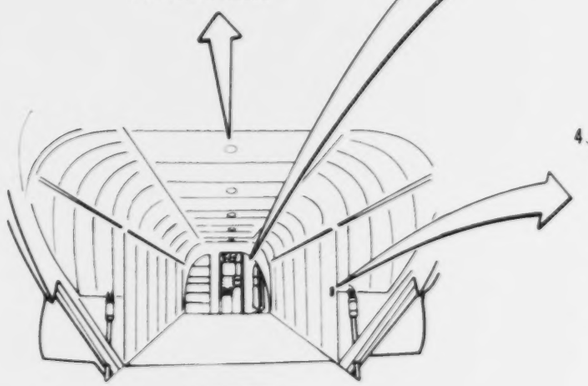
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT

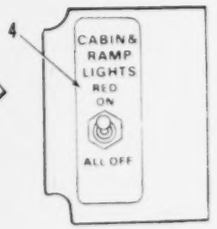

COCKPIT


DOME LIGHT TYPICAL 5 PLACES



VIEW LOOKING OUTBOARD PASSAGEWAY RIGHT SIDE AT STA 98


CABIN VIEW



VIEW LOOKING OUTBOARD RIGHT SIDE AT STA 482

END OF TASK

9-15.4 CABIN & RAMP CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

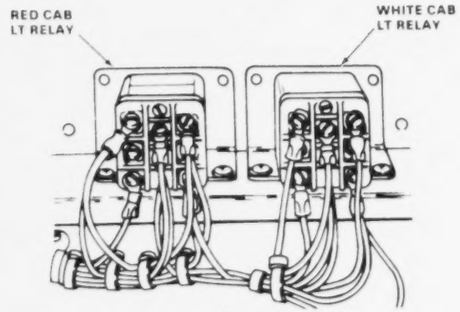
Materials:
None

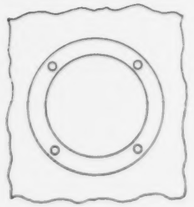
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

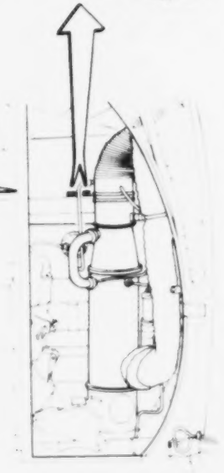
Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Heater Compartment Acoustic Blanket Removed

VIEW LOOKING OUTBOARD PASSAGEWAY RIGHT SIDE AT STA 98

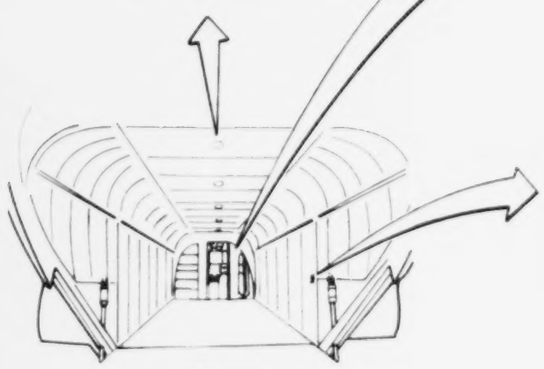




DOME LIGHT
TYPICAL 5 PLACES

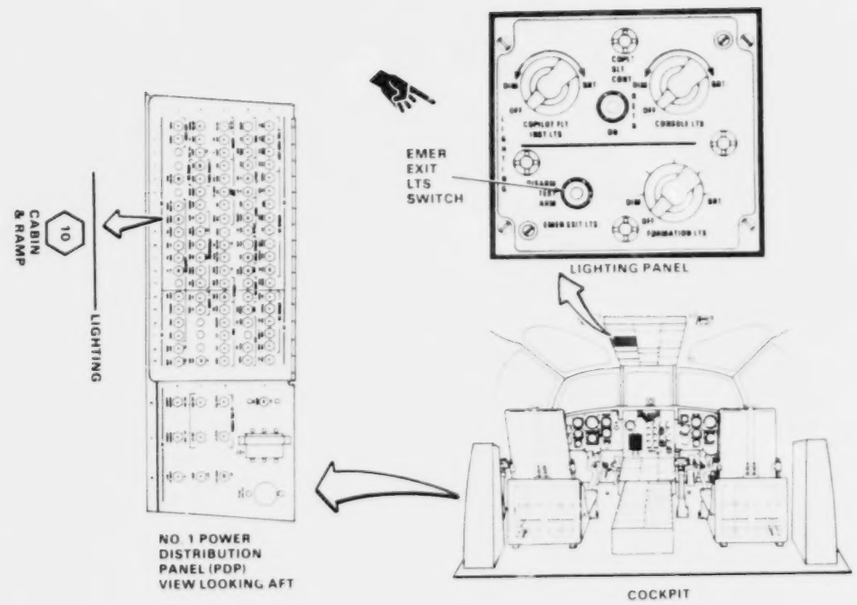


HEATER COMPARTMENT



CABIN VIEW

VIEW LOOKING OUTBOARD RIGHT SIDE AT STA 482



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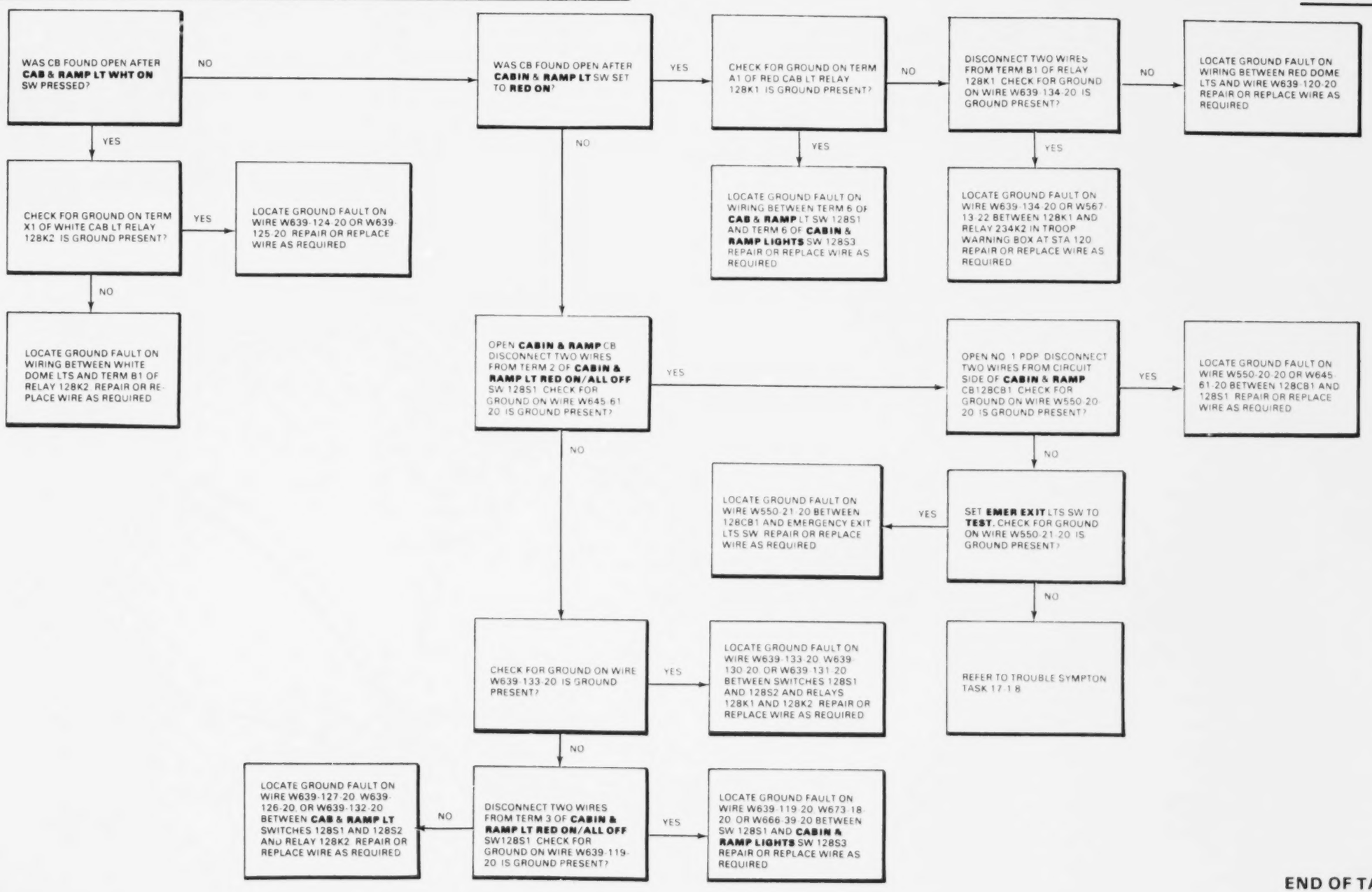
GO TO NEXT PAGE

9-15.4 CABIN & RAMP CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)


WAS CB FOUND OPEN AFTER **CAB & RAMP LT WHT ON** SW PRESSED?
NO
YES
CHECK FOR GROUND ON TERM X1 OF WHITE CAB LT RELAY 128K2 IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W639-124-20 OR W639-125-20 REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE GROUND FAULT ON WIRING BETWEEN WHITE DOME LTS AND TERM B1 OF RELAY 128K2 REPAIR OR REPLACE WIRE AS REQUIRED
WAS CB FOUND OPEN AFTER **CABIN & RAMP LT** SW SET TO **RED ON**?
YES
NO
CHECK FOR GROUND ON TERM A1 OF RED CAB LT RELAY 128K1 IS GROUND PRESENT?
NO
YES
LOCATE GROUND FAULT ON WIRING BETWEEN TERM 6 OF **CAB & RAMP** LT SW 128S1 AND TERM 6 OF **CABIN & RAMP LIGHTS** SW 128S3 REPAIR OR REPLACE WIRE AS REQUIRED
DISCONNECT TWO WIRES FROM TERM B1 OF RELAY 128K1 CHECK FOR GROUND ON WIRE W639-134-20 IS GROUND PRESENT?
NO
YES
LOCATE GROUND FAULT ON WIRE W639-134-20 OR W567-13-22 BETWEEN 128K1 AND RELAY 234K2 IN TROOP WARNING BOX AT STA 120 REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRING BETWEEN RED DOME LTS AND WIRE W639-120-20 REPAIR OR REPLACE WIRE AS REQUIRED
OPEN **CABIN & RAMP** CB DISCONNECT TWO WIRES FROM TERM 2 OF **CABIN & RAMP LT RED ON/ALL OFF** SW 128S1 CHECK FOR GROUND ON WIRE W645-61-20 IS GROUND PRESENT?
YES
NO
OPEN NO 1 PDP DISCONNECT TWO WIRES FROM CIRCUIT SIDE OF **CABIN & RAMP** CB128CB1 CHECK FOR GROUND ON WIRE W550-20-20 IS GROUND PRESENT?
YES
NO
LOCATE GROUND FAULT ON WIRE W550-20-20 OR W645-61-20 BETWEEN 128CB1 AND 128S1 REPAIR OR REPLACE WIRE AS REQUIRED
SET **EMER EXIT** LTS SW TO **TEST**. CHECK FOR GROUND ON WIRE W550-21-20 IS GROUND PRESENT?
YES
NO
LOCATE GROUND FAULT ON WIRE W550-21-20 BETWEEN 128CB1 AND EMERGENCY EXIT LTS SW REPAIR OR REPLACE WIRE AS REQUIRED
REFER TO TROUBLE SYMPTON TASK 17-1-8
CHECK FOR GROUND ON WIRE W639-133-20 IS GROUND PRESENT?
YES
NO
LOCATE GROUND FAULT ON WIRE W639-133-20 W639-130-20 OR W639-131-20 BETWEEN SWITCHES 128S1 AND 128S2 AND RELAYS 128K1 AND 128K2 REPAIR OR REPLACE WIRE AS REQUIRED
DISCONNECT TWO WIRES FROM TERM 3 OF **CABIN & RAMP LT RED ON/ALL OFF** SW128S1 CHECK FOR GROUND ON WIRE W639-119-20 IS GROUND PRESENT?
NO
YES
LOCATE GROUND FAULT ON WIRE W639-127-20 W639-126-20 OR W639-132-20 BETWEEN **CAB & RAMP LT** SWITCHES 128S1 AND 128S2 AND RELAY 128K2 REPAIR OR REPLACE WIRE AS REQUIRED
LOCATE GROUND FAULT ON WIRE W639-119-20 W673-18-20 OR W666-39-20 BETWEEN SW 128S1 AND **CABIN & RAMP LIGHTS** SW 128S3 REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

9-15.5 CABIN AND RAMP DOME WHITE LIGHT OR LIGHTS NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

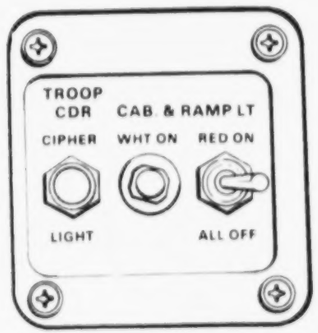
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

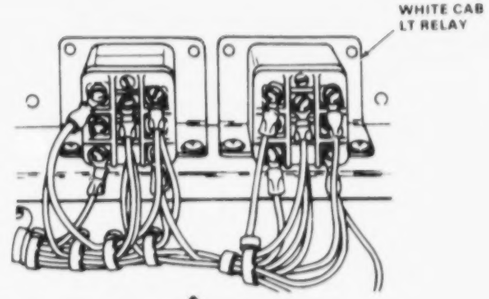
Materials:
None

Personnel Required:
Aircraft Electrician (2)

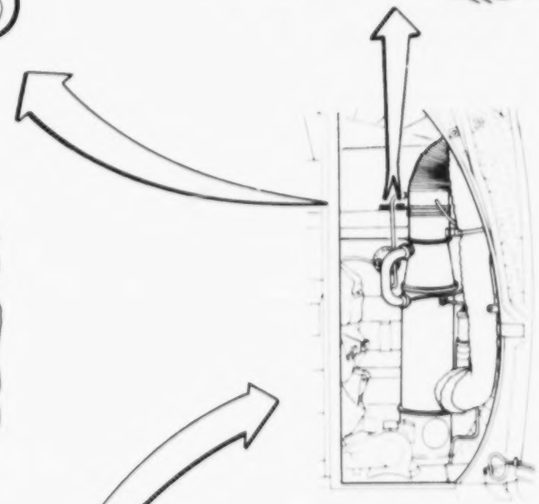
References:
TM 55-1520-240-23

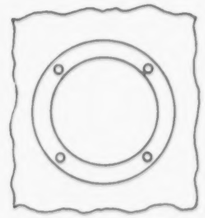
Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off
Heater Compartment Acoustic Blanket Removed





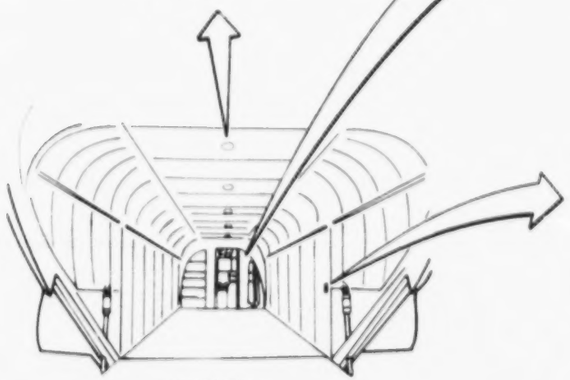
VIEW LOOKING OUTBOARD PASSAGEWAY RIGHT SIDE AT STA 98





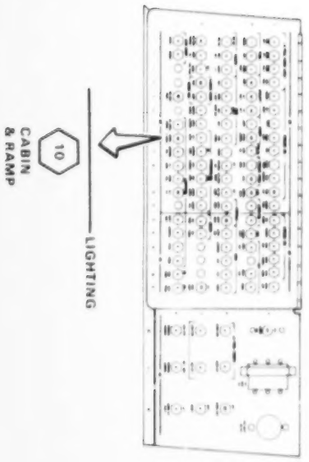
DOME LIGHT TYPICAL 5 PLACES

HEATER COMPARTMENT

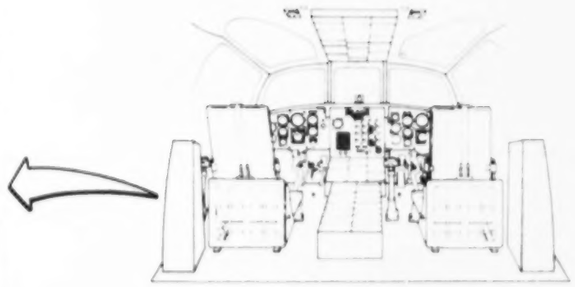


CABIN VIEW

VIEW LOOKING OUTBOARD RIGHT SIDE AT STA 482



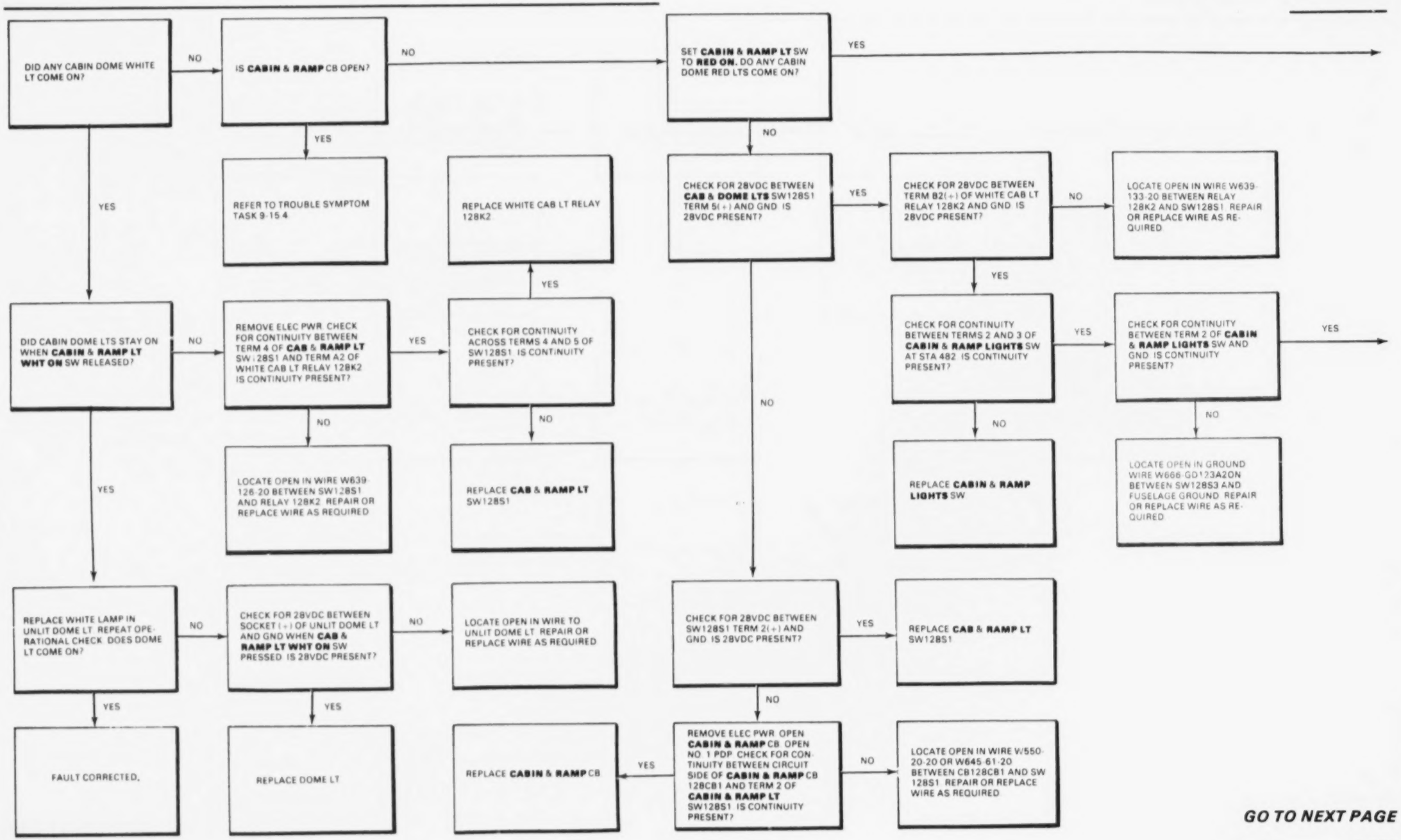
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT



COCKPIT

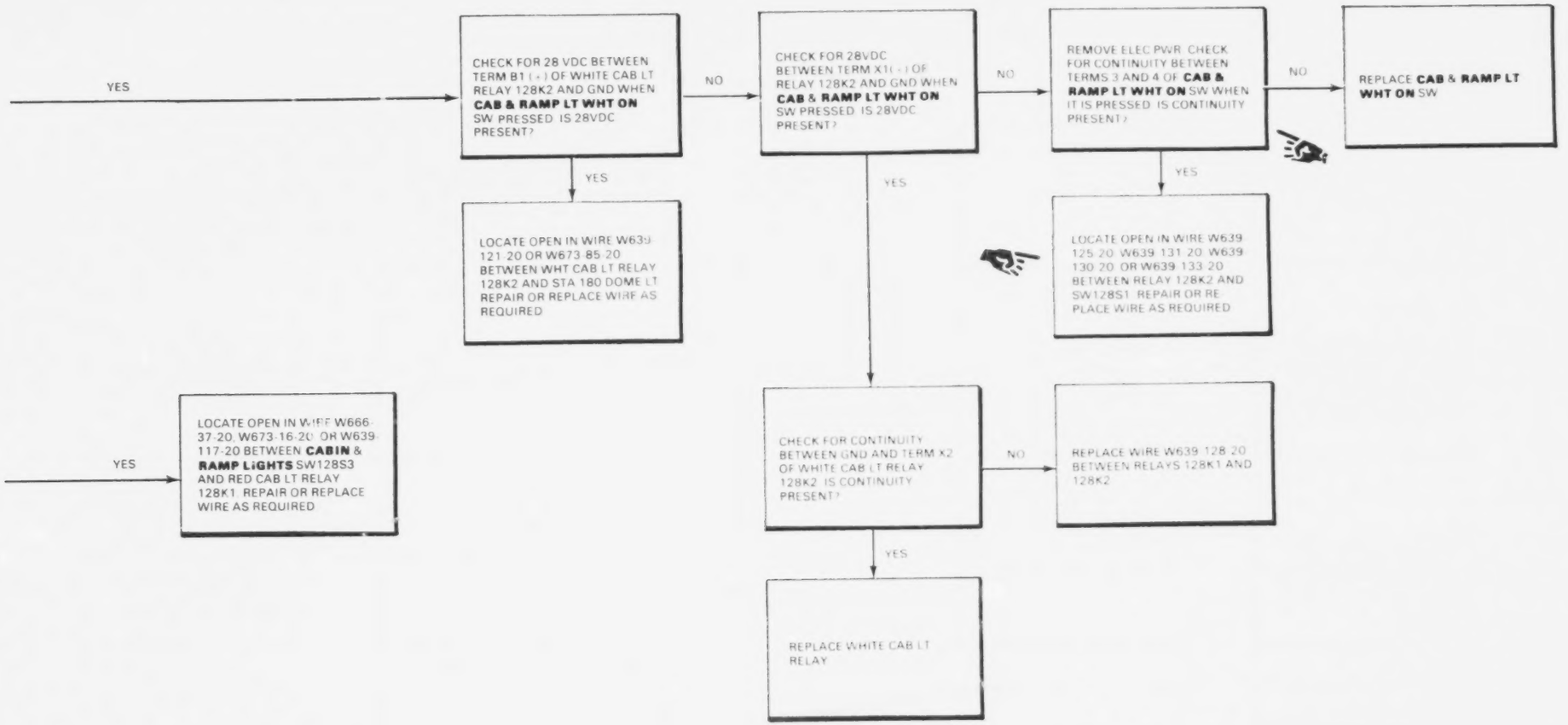
GO TO NEXT PAGE

9-15.5 CABIN AND RAMP DOME WHITE LIGHT OR LIGHTS NOT LIT (Continued)


DID ANY CABIN DOME WHITE LT COME ON?
NO
IS CABIN & RAMP CB OPEN?
NO
SET CABIN & RAMP LT SW TO RED ON. DO ANY CABIN DOME RED LTS COME ON?
YES
YES
REFER TO TROUBLE SYMPTOM TASK 9-15.4
NO
CHECK FOR 28VDC BETWEEN CAB & DOME LTS SW128S1 TERM 5(+) AND GND IS 28VDC PRESENT?
YES
CHECK FOR 28VDC BETWEEN TERM 82(+) OF WHITE CAB LT RELAY 128K2 AND GND IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W639-133-20 BETWEEN RELAY 128K2 AND SW128S1. REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE WHITE CAB LT RELAY 128K2
YES
DID CABIN DOME LTS STAY ON WHEN CABIN & RAMP LT WHT ON SW RELEASED?
NO
REMOVE ELEC PWR. CHECK FOR CONTINUITY BETWEEN TERM 4 OF CAB & RAMP LT SW 128S1 AND TERM A2 OF WHITE CAB LT RELAY 128K2 IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY ACROSS TERMS 4 AND 5 OF SW128S1. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN TERMS 2 AND 3 OF CABIN & RAMP LIGHTS SW AT STA 482. IS CONTINUITY PRESENT?
YES
CHECK FOR CONTINUITY BETWEEN TERM 2 OF CABIN & RAMP LIGHTS SW AND GND. IS CONTINUITY PRESENT?
YES
NO
NO
NO
NO
LOCATE OPEN IN WIRE W639-126-20 BETWEEN SW128S1 AND RELAY 128K2. REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE CAB & RAMP LT SW128S1
REPLACE CABIN & RAMP LIGHTS SW
LOCATE OPEN IN GROUND WIRE W666-GD123A20N BETWEEN SW128S3 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
YES
NO
REPLACE WHITE LAMP IN UNLIT DOME LT. REPEAT OPERATIONAL CHECK. DOES DOME LT COME ON?
NO
CHECK FOR 28VDC BETWEEN SOCKET (+) OF UNLIT DOME LT AND GND WHEN CAB & RAMP LT WHT ON SW PRESSED. IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE TO UNLIT DOME LT. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR 28VDC BETWEEN SW128S1 TERM 2(+) AND GND. IS 28VDC PRESENT?
YES
REPLACE CAB & RAMP LT SW128S1
YES
YES
YES
NO
FAULT CORRECTED.
REPLACE DOME LT
REPLACE CABIN & RAMP CB
YES
REMOVE ELEC PWR. OPEN CABIN & RAMP CB. OPEN NO. 1 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF CABIN & RAMP CB 128CB1 AND TERM 2 OF CABIN & RAMP LT SW128S1. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W550-20-20 OR W645-61-20 BETWEEN CB128CB1 AND SW 128S1. REPAIR OR REPLACE WIRE AS REQUIRED

GO TO NEXT PAGE

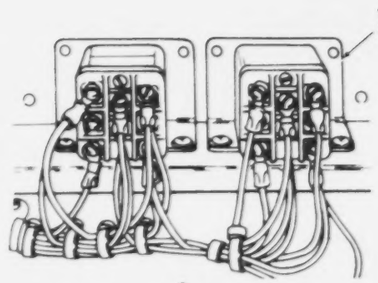
9-15.5 CABIN AND RAMP DOME WHITE LIGHT OR LIGHTS NOT LIT (Continued)

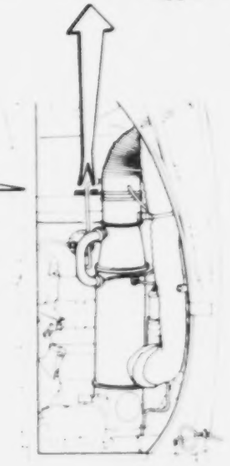

YES
CHECK FOR 28 VDC BETWEEN TERM B1 (+) OF WHITE CAB LT RELAY 128K2 AND GND WHEN **CAB & RAMP LT WHT ON** SW PRESSED. IS 28VDC PRESENT?
NO
CHECK FOR 28VDC BETWEEN TERM X1 (+) OF RELAY 128K2 AND GND WHEN **CAB & RAMP LT WHT ON** SW PRESSED. IS 28VDC PRESENT?
NO
REMOVE ELEC PWR. CHECK FOR CONTINUITY BETWEEN TERMS 3 AND 4 OF **CAB & RAMP LT WHT ON** SW WHEN IT IS PRESSED. IS CONTINUITY PRESENT?
NO
REPLACE **CAB & RAMP LT WHT ON** SW
YES
LOCATE OPEN IN WIRE W639-121-20 OR W673-85-20 BETWEEN WHT CAB LT RELAY 128K2 AND STA 180 DOME LT. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE OPEN IN WIRE W639-125-20, W639-131-20, W639-130-20, OR W639-133-20 BETWEEN RELAY 128K2 AND SW128S1. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE OPEN IN WIRE W666-37-20, W673-16-20, OR W639-117-20 BETWEEN **CABIN & RAMP LIGHTS** SW128S3 AND RED CAB LT RELAY 128K1. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR CONTINUITY BETWEEN GND AND TERM X2 OF WHITE CAB LT RELAY 128K2. IS CONTINUITY PRESENT?
NO
REPLACE WIRE W639-128-20 BETWEEN RELAYS 128K1 AND 128K2
YES
REPLACE WHITE CAB LT RELAY

GO TO NEXT PAGE

9-15.5 CABIN AND RAMP DOME WHITE LIGHT OR LIGHTS NOT LIT (Continued)

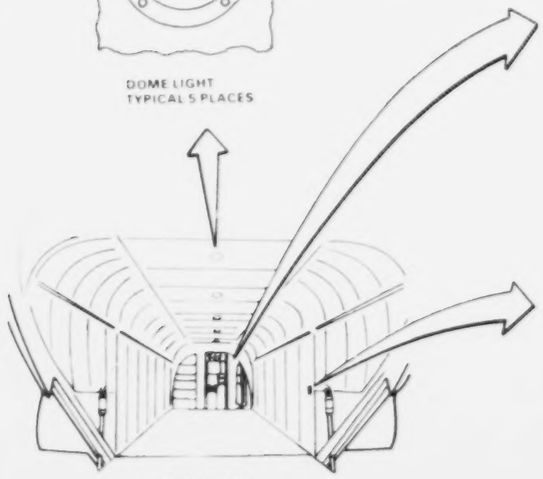
VIEW LOOKING OUTBOARD PASSAGEWAY RIGHT SIDE AT STA 98



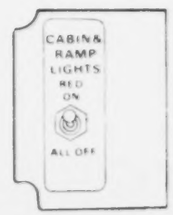


HEATER COMPARTMENT

DOME LIGHT
TYPICAL 5 PLACES



CABIN VIEW



VIEW LOOKING OUTBOARD RIGHT SIDE AT STA 482

90X54

END OF TASK

9-15.6 CABIN AND RAMP DOME WHITE LIGHTS DO NOT GO OUT WHEN CAB & RAMP LT SWITCH SET TO ALL OFF

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

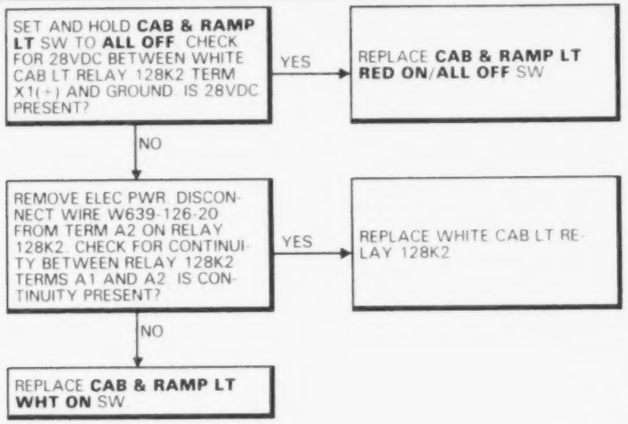
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

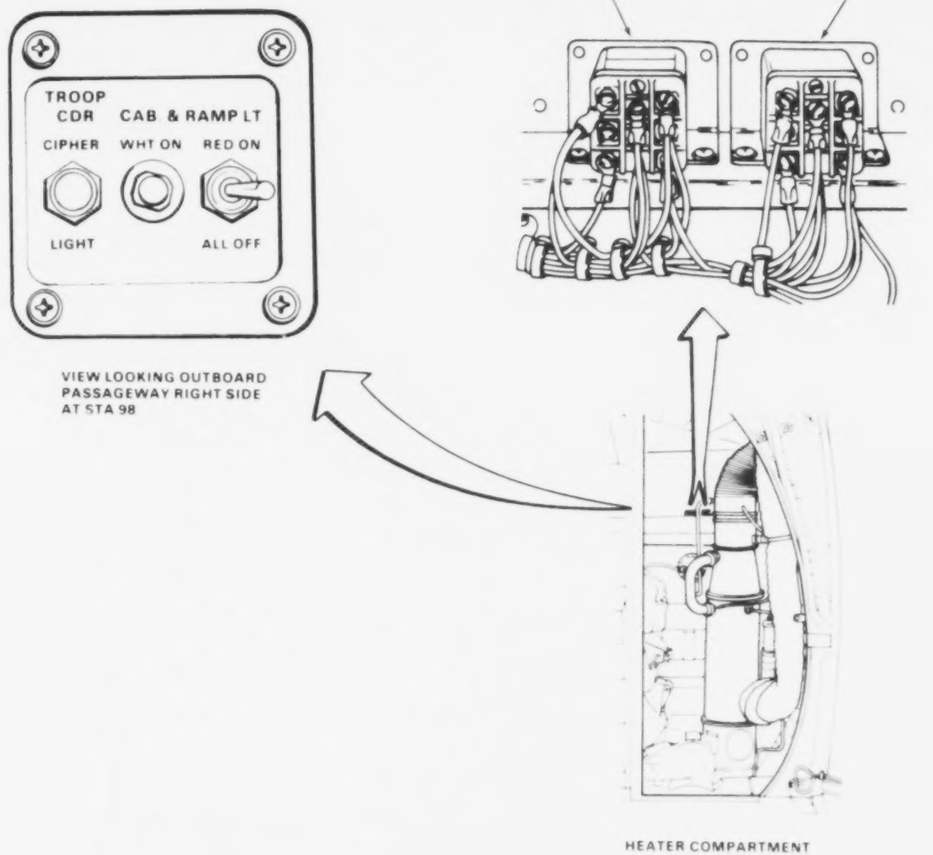
Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Heater Compartment Acoustic Blanket Removed


SET AND HOLD CAB & RAMP LT SW TO ALL OFF. CHECK FOR 28VDC BETWEEN WHITE CAB LT RELAY 128K2 TERM X1(+) AND GROUND. IS 28VDC PRESENT?
YES
REPLACE CAB & RAMP LT RED ON/ALL OFF SW
NO
REMOVE ELEC PWR. DISCONNECT WIRE W639-126-20 FROM TERM A2 ON RELAY 128K2. CHECK FOR CONTINUITY BETWEEN RELAY 128K2 TERMS A1 AND A2. IS CONTINUITY PRESENT?
YES
REPLACE WHITE CAB LT RELAY 128K2
NO
REPLACE CAB & RAMP LT WHT ON SW



END OF TASK

9-15.7 CABIN AND RAMP DOME RED LIGHT OR LIGHTS NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

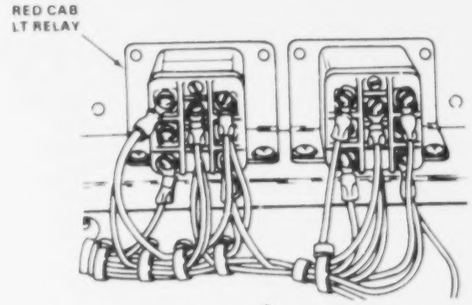
Materials:
None

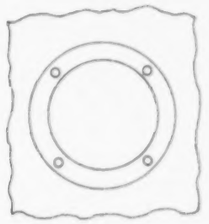
Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

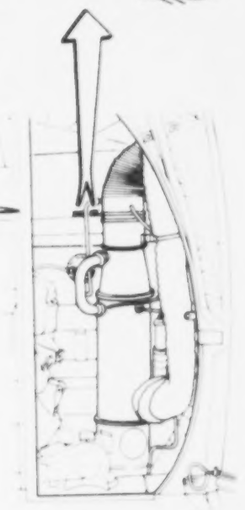
Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off
Heater Compartment Acoustic Blanket Removed

VIEW LOOKING OUTBOARD PASSAGEWAY RIGHT SIDE AT STA 98

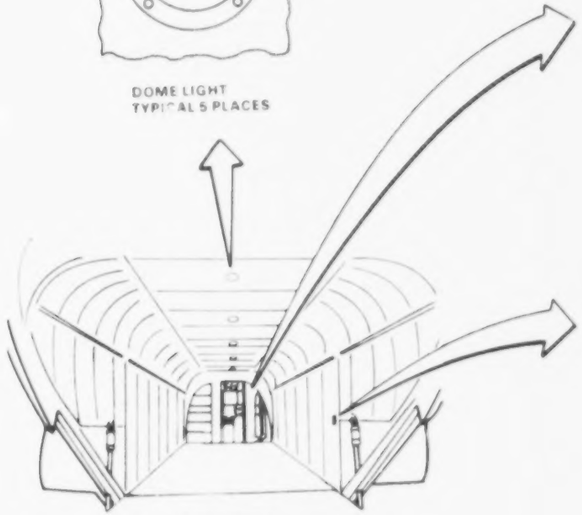




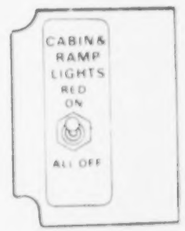
DOME LIGHT
TYPICAL 5 PLACES



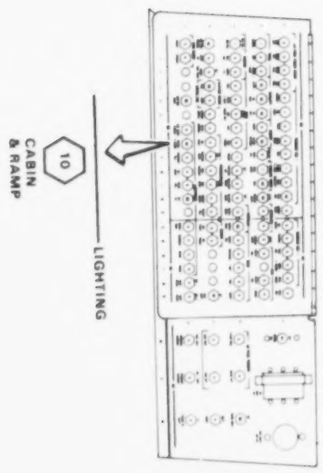
HEATER COMPARTMENT



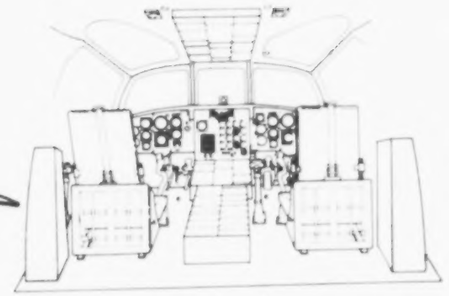
CABIN VIEW



VIEW LOOKING OUTBOARD RIGHT SIDE AT STA 482



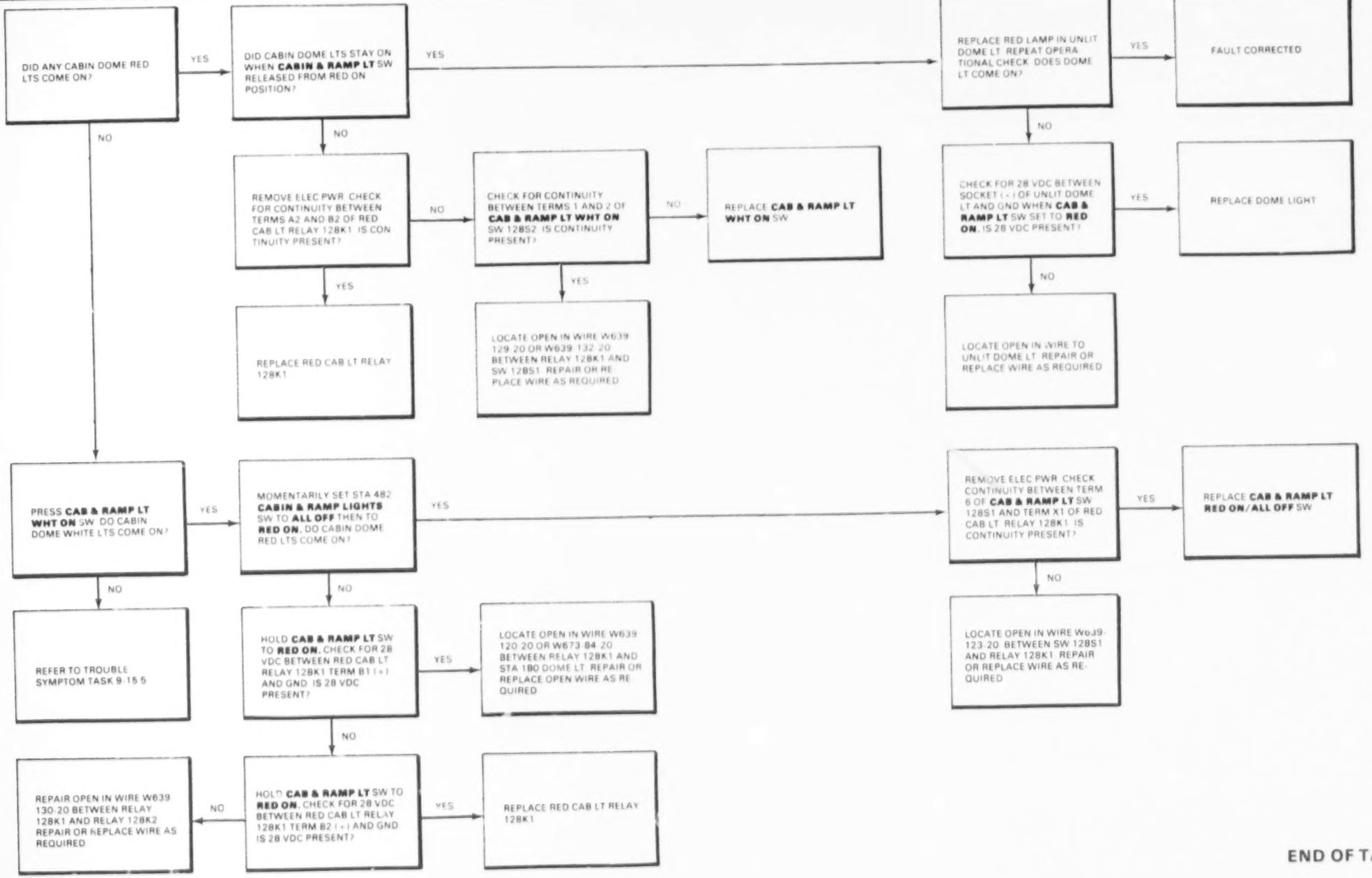
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT



COCKPIT

GO TO NEXT PAGE

9-15.7 CABIN AND RAMP DOME RED LIGHT OR LIGHTS NOT LIT (Continued)


DID ANY CABIN DOME RED LTS COME ON?
YES
DID CABIN DOME LTS STAY ON WHEN **CABIN & RAMP LT** SW RELEASED FROM RED ON POSITION?
YES
REPLACE RED LAMP IN UNLIT DOME LT. REPEAT OPERATIONAL CHECK. DOES DOME LT COME ON?
YES
FAULT CORRECTED
NO
NO
REMOVE ELEC PWR. CHECK FOR CONTINUITY BETWEEN TERMS A2 AND B2 OF RED CAB LT RELAY 128K1. IS CONTINUITY PRESENT?
NO
CHECK FOR CONTINUITY BETWEEN TERMS 1 AND 2 OF **CAB & RAMP LT WHT ON** SW 128S2. IS CONTINUITY PRESENT?
NO
REPLACE **CAB & RAMP LT WHT ON** SW
CHECK FOR 28 VDC BETWEEN SOCKET (+) OF UNLIT DOME LT AND GND WHEN **CAB & RAMP LT** SW SET TO **RED ON**. IS 28 VDC PRESENT?
YES
REPLACE DOME LIGHT
YES
YES
REPLACE RED CAB LT RELAY 128K1
LOCATE OPEN IN WIRE W639-129-20 OR W639-132-20 BETWEEN RELAY 128K1 AND SW 128S1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE TO UNLIT DOME LT. REPAIR OR REPLACE WIRE AS REQUIRED
PRESS **CAB & RAMP LT WHT ON** SW. DO CABIN DOME WHITE LTS COME ON?
YES
MOMENTARILY SET STA 482 **CABIN & RAMP LIGHTS** SW TO **ALL OFF** THEN TO **RED ON**. DO CABIN DOME RED LTS COME ON?
YES
REMOVE ELEC PWR. CHECK CONTINUITY BETWEEN TERM 6 OF **CAB & RAMP LT** SW 128S1 AND TERM X1 OF RED CAB LT RELAY 128K1. IS CONTINUITY PRESENT?
YES
REPLACE **CAB & RAMP LT RED ON/ALL OFF** SW
NO
NO
REFER TO TROUBLE SYMPTOM TASK 9-15.5
HOLD **CAB & RAMP LT** SW TO **RED ON**. CHECK FOR 28 VDC BETWEEN RED CAB LT RELAY 128K1 TERM B1 (+) AND GND. IS 28 VDC PRESENT?
YES
LOCATE OPEN IN WIRE W639-120-20 OR W673-84-20 BETWEEN RELAY 128K1 AND STA 180 DOME LT. REPAIR OR REPLACE OPEN WIRE AS REQUIRED
LOCATE OPEN IN WIRE W639-123-20 BETWEEN SW 128S1 AND RELAY 128K1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPAIR OPEN IN WIRE W639-130-20 BETWEEN RELAY 128K1 AND RELAY 128K2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
HOLD **CAB & RAMP LT** SW TO **RED ON**. CHECK FOR 28 VDC BETWEEN RED CAB LT RELAY 128K1 TERM B2 (+) AND GND. IS 28 VDC PRESENT?
YES
REPLACE RED CAB LT RELAY 128K1

END OF TASK

9-15.8 CABIN AND RAMP DOME WHITE LIGHTS STAY ON WHEN CABIN & RAMP LIGHTS SWITCH SET TO ALL OFF

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:

Without 17

Tools:

Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:

None

Personnel Required:

Aircraft Electrician

References:

TM 55-1520-240-23

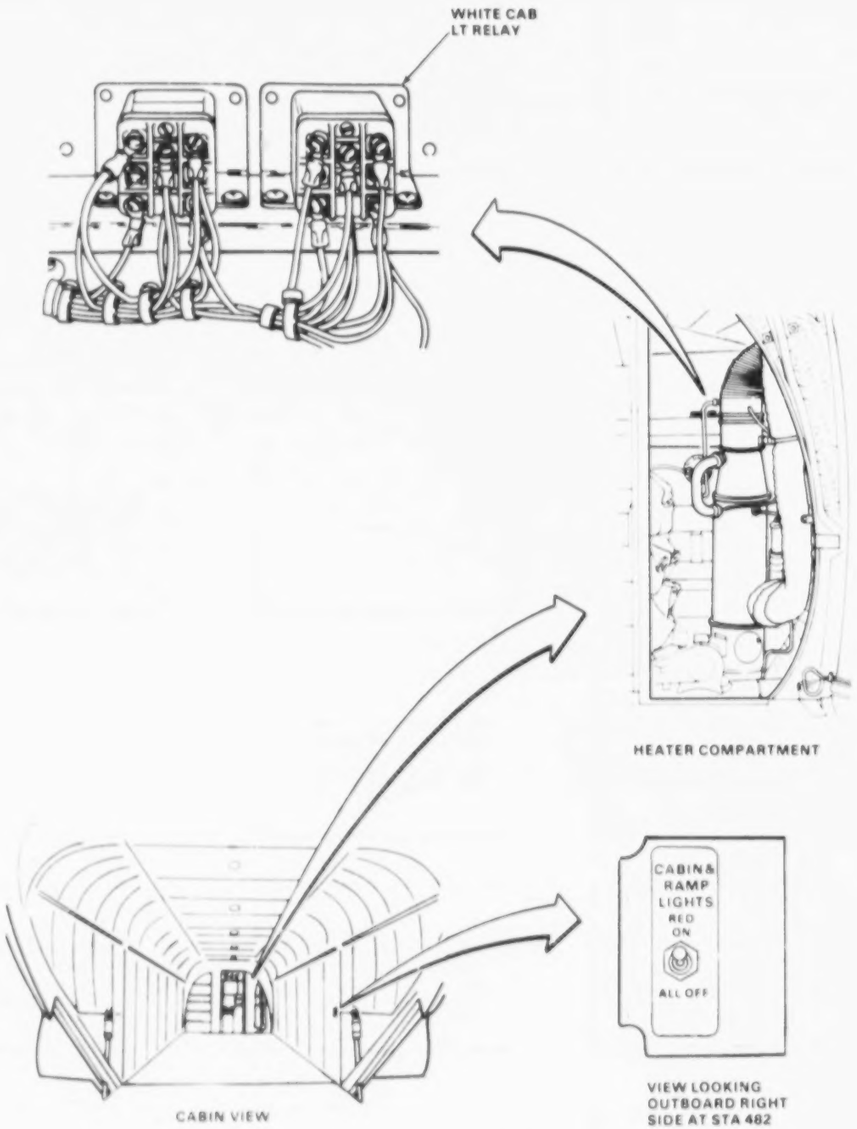
Equipment Condition:

TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Heater Compartment Acoustic Blanket Removed

DISCONNECT WIRE W666-37-20 FROM TERM 3 OF **CABIN & RAMP LIGHTS** SW AT STA 482. CHECK FOR GROUND ON WIRE W666-37-20. IS GROUND PRESENT?

YES → LOCATE GROUND FAULT ON WIRE W666-37-20, W673-16-20, W639-117-20, OR W639-128-20 BETWEEN **CABIN & RAMP LIGHTS** SW AND **WHITE CAB LT** RELAY. REPAIR OR REPLACE WIRE AS REQUIRED

NO → REPLACE **CABIN & RAMP LIGHTS** SW 1285S3



D45-4245-SPA

END OF TASK

9-15.9 CABIN AND RAMP DOME RED LIGHTS DO NOT COME ON WHEN CABIN & RAMP LIGHTS SWITCH SET TO RED ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
Without 17

Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power Off
Hydraulic Power Off

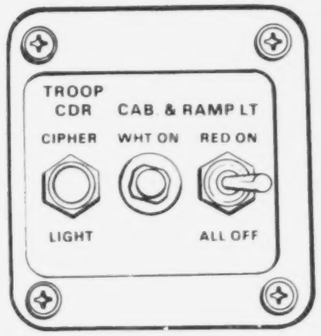
CHECK FOR 28VDC BETWEEN **CABIN & RAMP LIGHTS** SW 128S3 TERM 5(+) AND GROUND. IS 28VDC PRESENT?

YES → HOLD **CABIN & RAMP LT** SW TO **RED ON**. CHECK FOR 28VDC BETWEEN **CABIN & RAMP LIGHTS** SW 128S3 TERM 6(+) AND GROUND. IS 28VDC PRESENT?

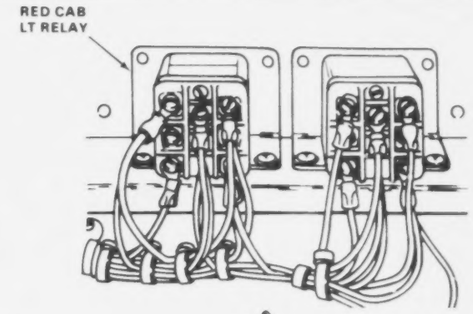
NO → REPLACE **CABIN & RAMP LIGHTS** SW 128S3.

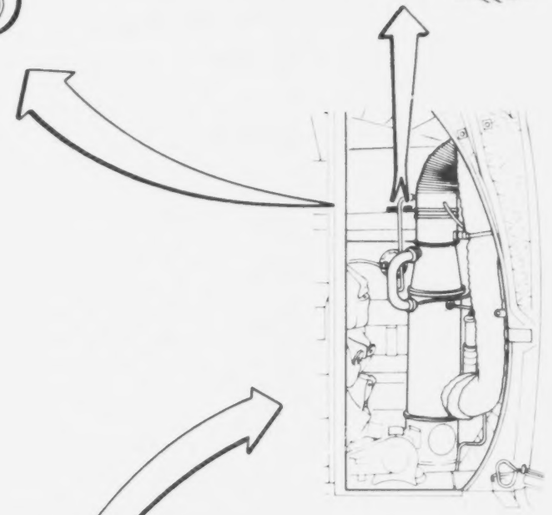
NO → LOCATE OPEN IN WIRE W666-39-20, W673-18-20, OR W639-119-20 BETWEEN **CAB & RAMP LT** SW 128S1 AND **CAB & RAMP LIGHTS** SW 128S3. REPAIR OR REPLACE WIRE AS REQUIRED.

YES → LOCATE OPEN IN WIRE W666-38-20, W673-17-20, OR W639-118-20 BETWEEN **CABIN & RAMP LIGHTS** SW 128S3 AND RED CAB LT RELAY 128K1. REPAIR OR REPLACE WIRE AS REQUIRED.

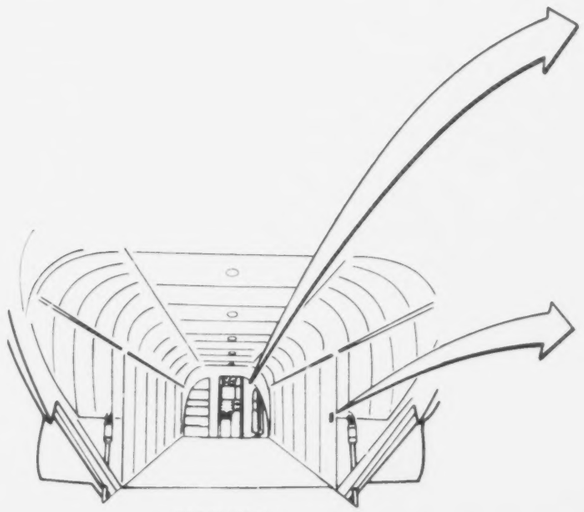


VIEW LOOKING OUTBOARD PASSAGEWAY RIGHT SIDE AT STA 98

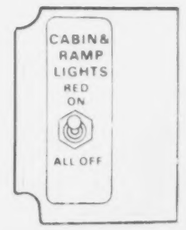




HEATER COMPARTMENT



CABIN VIEW

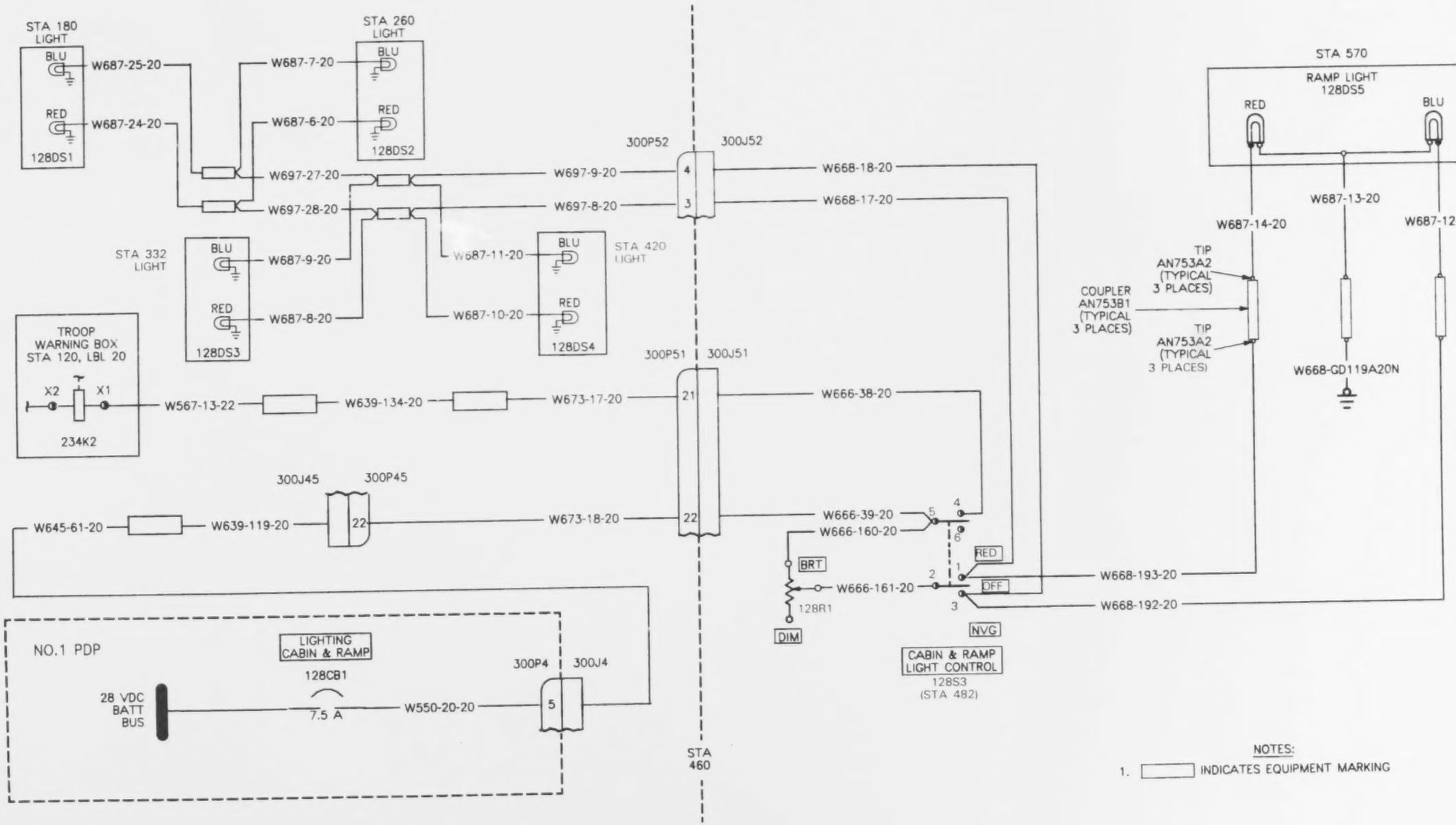


VIEW LOOKING OUTBOARD RIGHT SIDE AT STA 482

DI45-4244-SPA

END OF TASK

9-15.9.1 CABIN AND RAMP LIGHTS WIRING DIAGRAM (WITH 17)



NOTES:

1. [ ] INDICATES EQUIPMENT MARKING

A10 418

9-15.10 CABIN AND RAMP LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

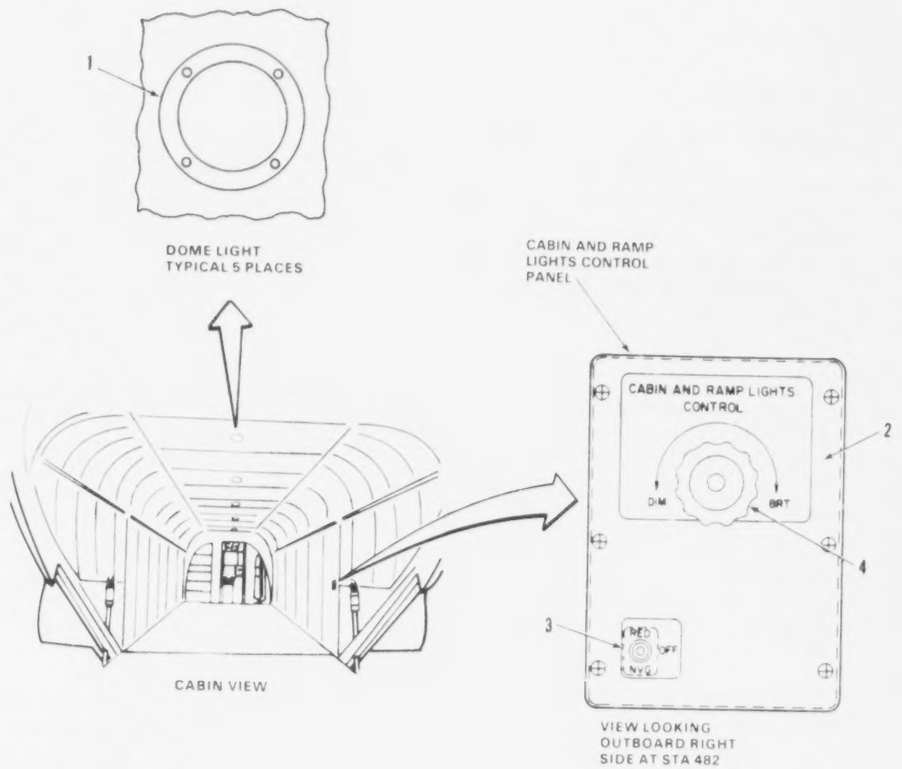
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check ramp dome and four cabin dome lights (1).**	If any dome light (1) is loose or damaged, tighten or replace it as required.
2. **Check CABIN & RAMP LIGHTS CONTROL panel (2).**	If panel (2) is loose or damaged, tighten or replace it as required. If switch (3) or knob (4) is loose or damaged, tighten or replace it as required.

FOLLOW-ON MAINTENANCE
None



10419

END OF TASK

9-15.11 CABIN AND RAMP LIGHTS OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
None

Materials:
None

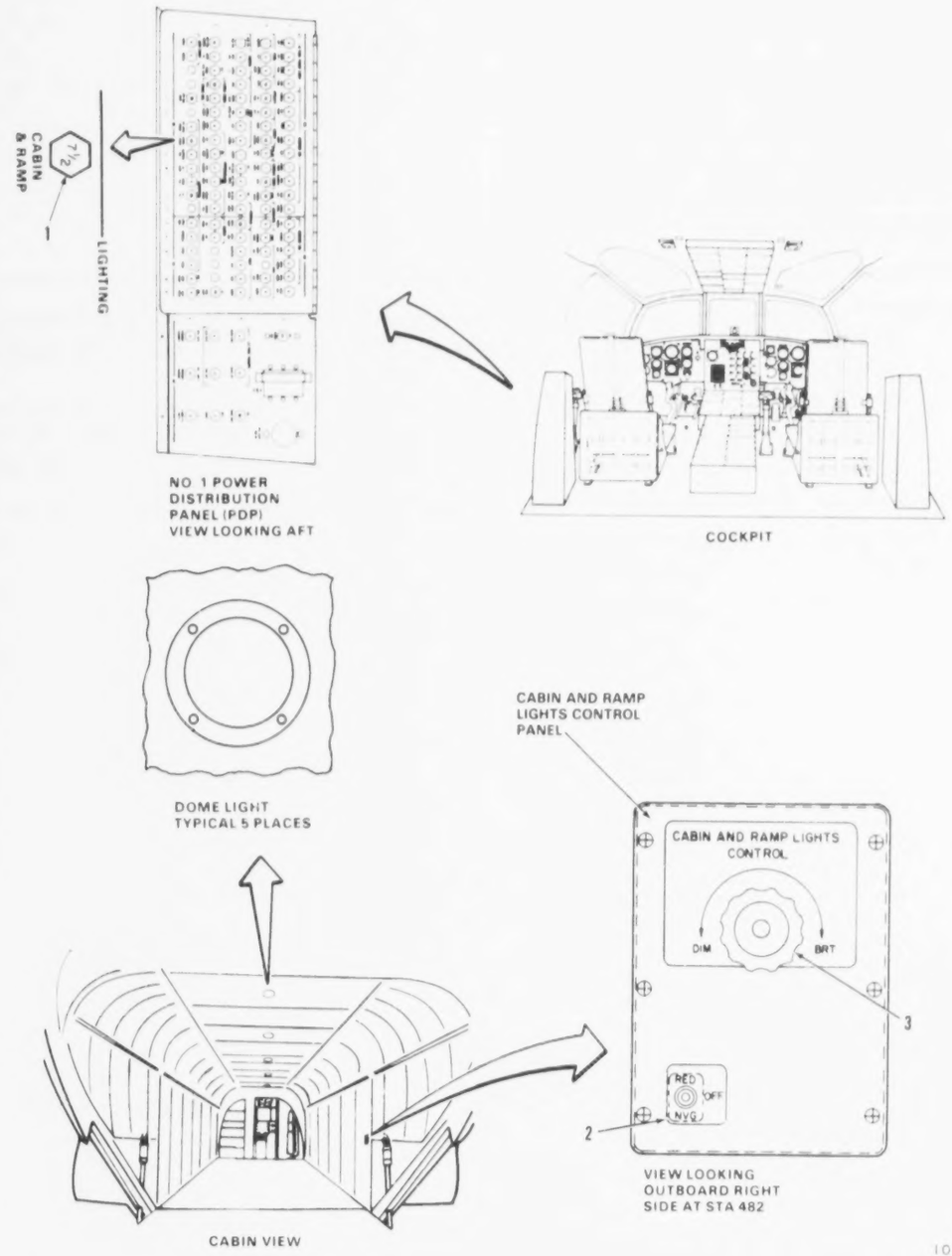
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Visual Check of Cabin and Ramp Lights Performed (Task 9-15.10)

TASK	RESULT
1. **Check** that **LIGHTING CABIN & RAMP circuit breaker (1)** is closed.	If CABIN & RAMP circuit breaker (1) is open, close it. If it opens again, go to task 9-15.12.
2. **Set CABIN AND RAMP LIGHTS CONTROL switch (2) to RED. Turn control (3) from DIM to BRT.**	All five dome red lights shall come on and increase in brightness as control is moved. If any light is not lit, go to task 9-15.13. If lights come on but brightness does not increase, replace control (3).
3. **Turn control (3) to DIM.**	
4. **Set CABIN AND RAMP LIGHTS CONTROL switch (2)** to **NVG**. Turn control (3) from **DIM** to **BRT**.	All five dome blue lights shall come on and increase in brightness as control is moved. If any light is not lit, go to task 9-15.14.
5. Turn control (3) to DIM. Set switch (2) to **OFF.**	

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off



10420

END OF TASK

9-15.12 CABIN & RAMP CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

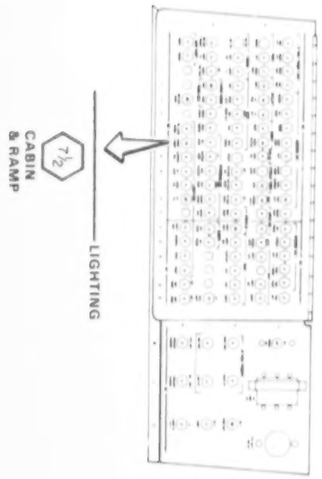
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

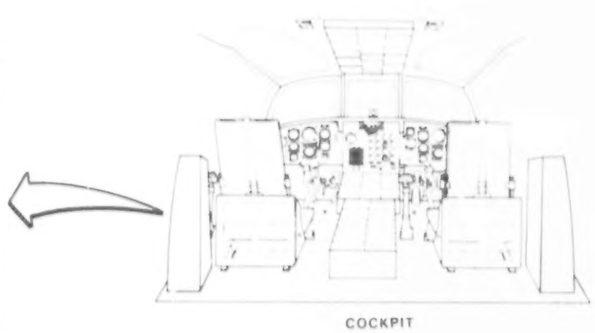
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

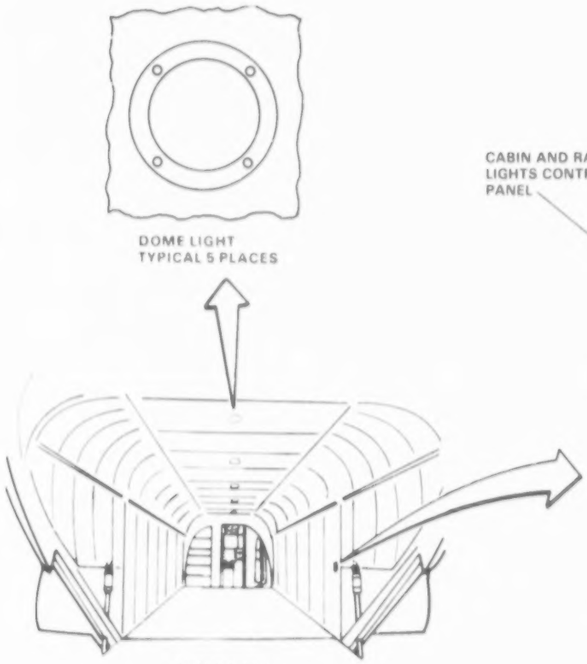
Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT

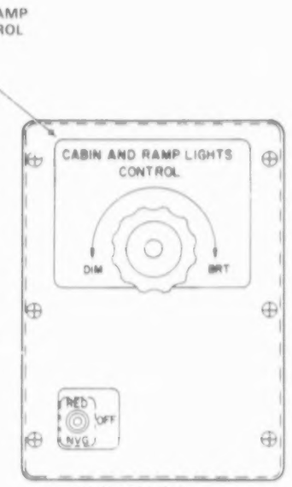


COCKPIT



DOME LIGHT TYPICAL 5 PLACES

CABIN VIEW



VIEW LOOKING OUTBOARD RIGHT SIDE AT STA 482

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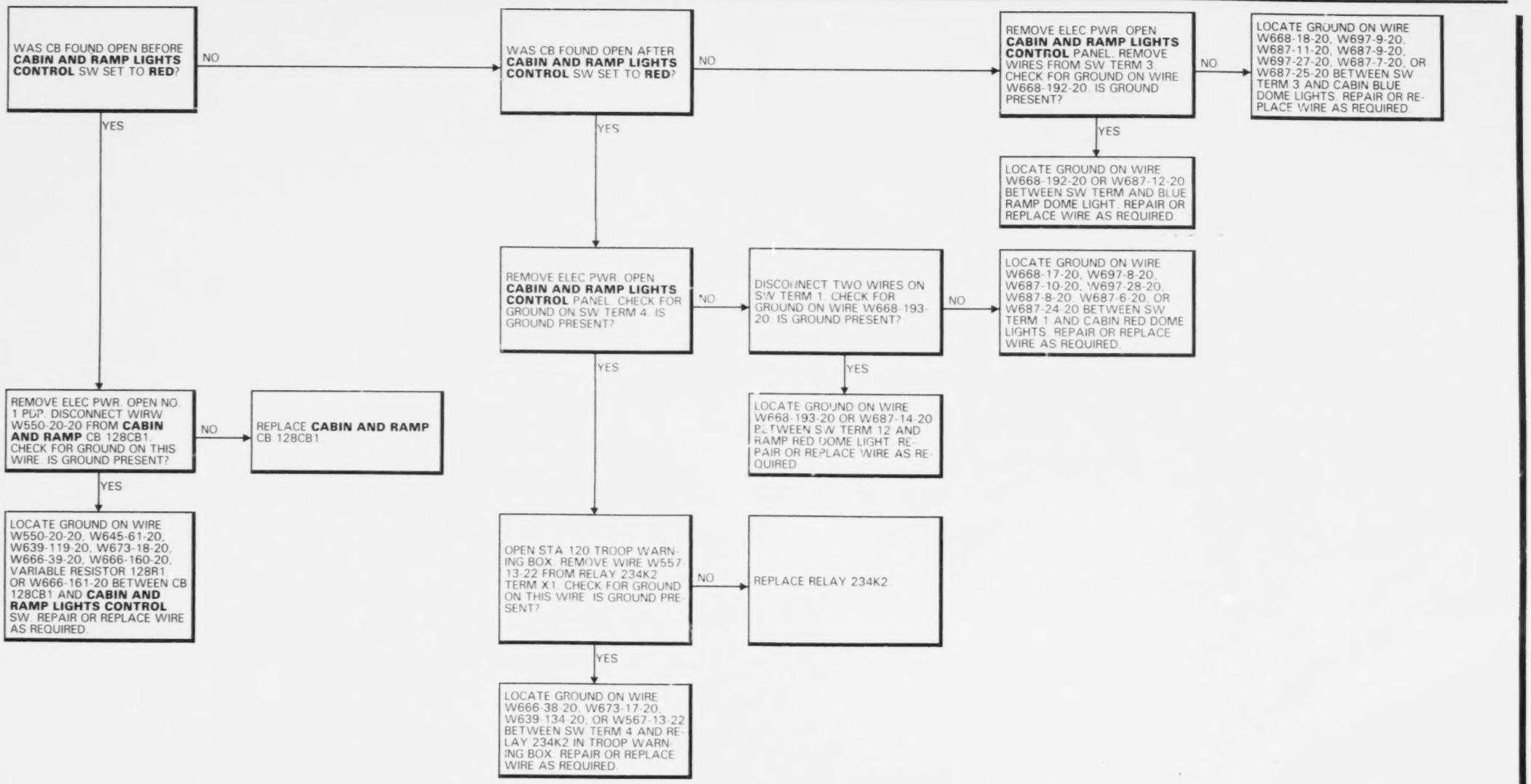
GO TO NEXT PAGE

9-15.12 CABIN & RAMP CIRCUIT BREAKER DOES NOT STAY CLOSED (Continued)


WAS CB FOUND OPEN BEFORE CABIN AND RAMP LIGHTS CONTROL SW SET TO RED?
NO
YES
WAS CB FOUND OPEN AFTER CABIN AND RAMP LIGHTS CONTROL SW SET TO RED?
NO
YES
REMOVE ELEC PWR. OPEN CABIN AND RAMP LIGHTS CONTROL PANEL. REMOVE WIRES FROM SW TERM 3. CHECK FOR GROUND ON WIRE W668-192-20. IS GROUND PRESENT?
NO
YES
LOCATE GROUND ON WIRE W668-18-20, W697-9-20, W687-11-20, W687-9-20, W697-27-20, W687-7-20, OR W687-25-20 BETWEEN SW TERM 3 AND CABIN BLUE DOME LIGHTS. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE GROUND ON WIRE W668-192-20 OR W687-12-20 BETWEEN SW TERM AND BLUE RAMP DOME LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELEC PWR. OPEN CABIN AND RAMP LIGHTS CONTROL PANEL. CHECK FOR GROUND ON SW TERM 4. IS GROUND PRESENT?
NO
YES
DISCONNECT TWO WIRES ON SW TERM 1. CHECK FOR GROUND ON WIRE W668-193-20. IS GROUND PRESENT?
NO
YES
LOCATE GROUND ON WIRE W668-17-20, W697-8-20, W687-10-20, W697-28-20, W687-8-20, W687-6-20, OR W687-24-20 BETWEEN SW TERM 1 AND CABIN RED DOME LIGHTS. REPAIR OR REPLACE WIRE AS REQUIRED.
LOCATE GROUND ON WIRE W668-193-20 OR W687-14-20 BETWEEN SW TERM 12 AND RAMP RED DOME LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELEC PWR. OPEN NO. 1 PDP. DISCONNECT WIRW W550-20-20 FROM CABIN AND RAMP CB 128CB1. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
YES
REPLACE CABIN AND RAMP CB 128CB1.
LOCATE GROUND ON WIRE W550-20-20, W645-61-20, W639-119-20, W673-18-20, W666-39-20, W666-160-20, VARIABLE RESISTOR 128R1, OR W666-161-20 BETWEEN CB 128CB1 AND CABIN AND RAMP LIGHTS CONTROL SW. REPAIR OR REPLACE WIRE AS REQUIRED.
OPEN STA 120 TROOP WARNING BOX. REMOVE WIRE W557-13-22 FROM RELAY 234K2 TERM X1. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
YES
REPLACE RELAY 234K2.
LOCATE GROUND ON WIRE W666-38-20, W673-17-20, W639-134-20, OR W567-13-22 BETWEEN SW TERM 4 AND RELAY 234K2 IN TROOP WARNING BOX. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

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9-15.13 CABIN AND RAMP DOME RED LIGHT OR LIGHTS NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

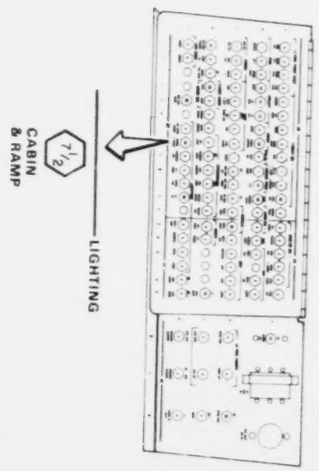
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

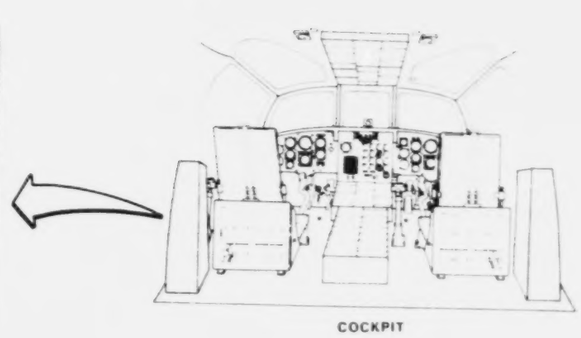
Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

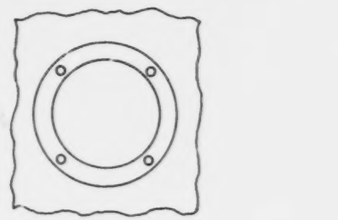
Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



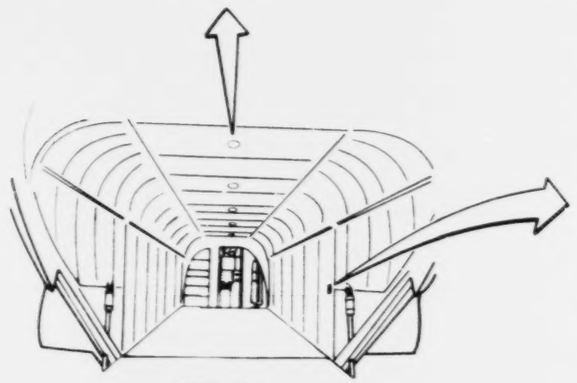
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT



COCKPIT

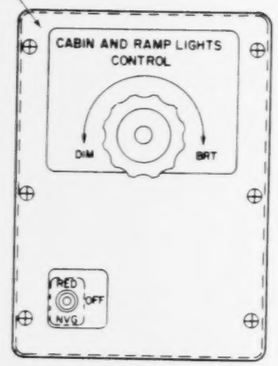


DOME LIGHT TYPICAL 5 PLACES



CABIN VIEW

CABIN AND RAMP LIGHTS CONTROL PANEL



VIEW LOOKING OUTBOARD RIGHT SIDE AT STA 482

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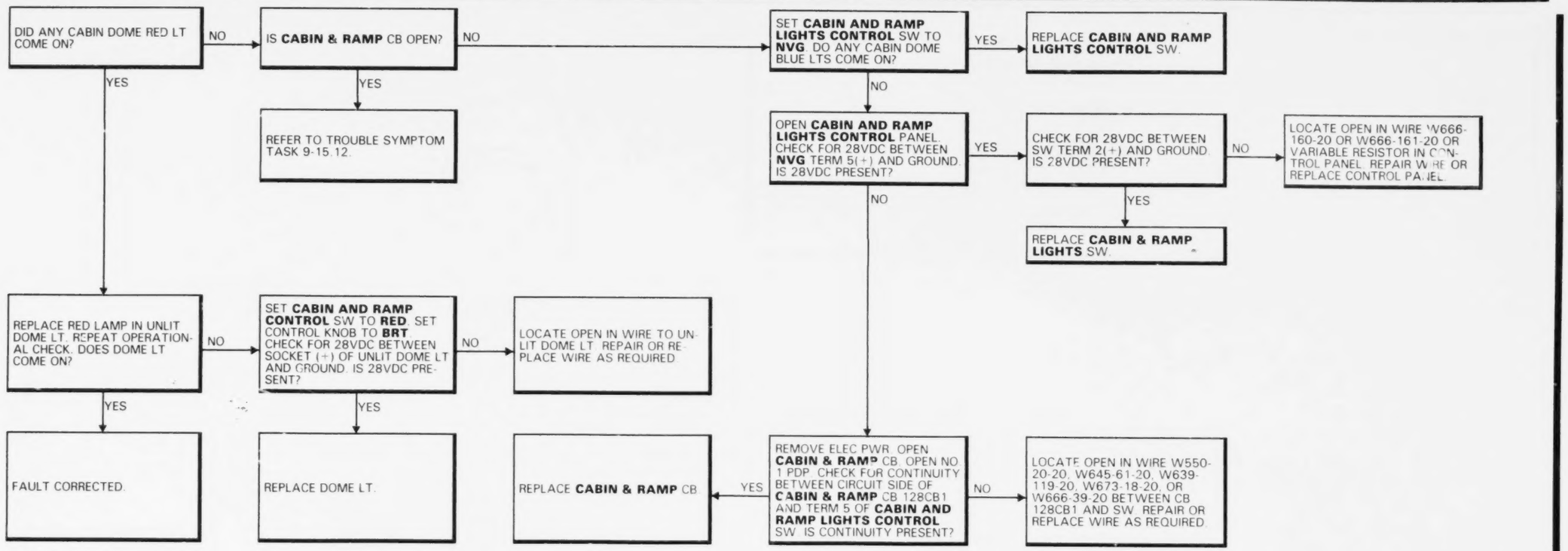
GO TO NEXT PAGE

9-15.13 CABIN AND RAMP DOME RED LIGHT OR LIGHTS NOT LIT (Continued)


DID ANY CABIN DOME RED LT COME ON?
NO
IS CABIN & RAMP CB OPEN?
NO
YES
REFER TO TROUBLE SYMPTOM TASK 9-15.12.
YES
SET CABIN AND RAMP LIGHTS CONTROL SW TO NVG. DO ANY CABIN DOME BLUE LTS COME ON?
YES
REPLACE CABIN AND RAMP LIGHTS CONTROL SW.
NO
OPEN CABIN AND RAMP LIGHTS CONTROL PANEL. CHECK FOR 28VDC BETWEEN NVG TERM 5(+) AND GROUND. IS 28VDC PRESENT?
YES
CHECK FOR 28VDC BETWEEN SW TERM 2(+) AND GROUND. IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W666-160-20 OR W666-161-20 OR VARIABLE RESISTOR IN CONTROL PANEL. REPAIR WIRE OR REPLACE CONTROL PANEL.
YES
REPLACE CABIN & RAMP LIGHTS SW.
NO
REPLACE RED LAMP IN UNLIT DOME LT. REPEAT OPERATIONAL CHECK. DOES DOME LT COME ON?
NO
SET CABIN AND RAMP CONTROL SW TO RED. SET CONTROL KNOB TO BRT. CHECK FOR 28VDC BETWEEN SOCKET (+) OF UNLIT DOME LT AND GROUND. IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE TO UNLIT DOME LT. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
FAULT CORRECTED.
YES
REPLACE DOME LT.
YES
REPLACE CABIN & RAMP CB.
YES
REMOVE ELEC PWR. OPEN CABIN & RAMP CB. OPEN NO 1 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF CABIN & RAMP CB 128CB1 AND TERM 5 OF CABIN AND RAMP LIGHTS CONTROL SW. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W550-20-20, W645-61-20, W639-119-20, W673-18-20, OR W666-39-20 BETWEEN CB 128CB1 AND SW. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-15.14 CABIN AND RAMP DOME BLUE LIGHT OR LIGHTS NOT LIT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

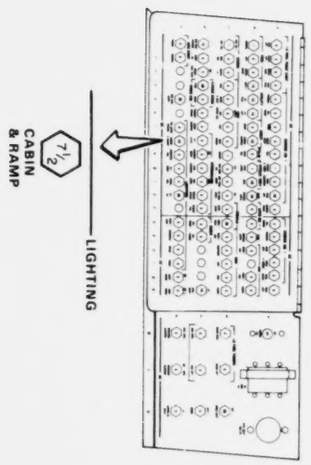
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

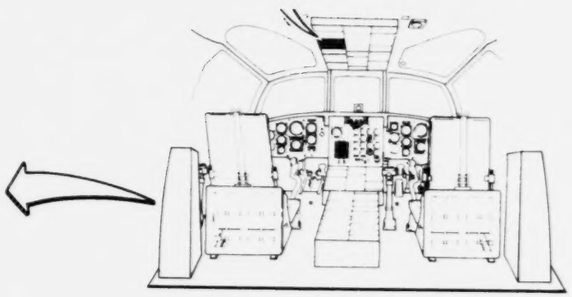
Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

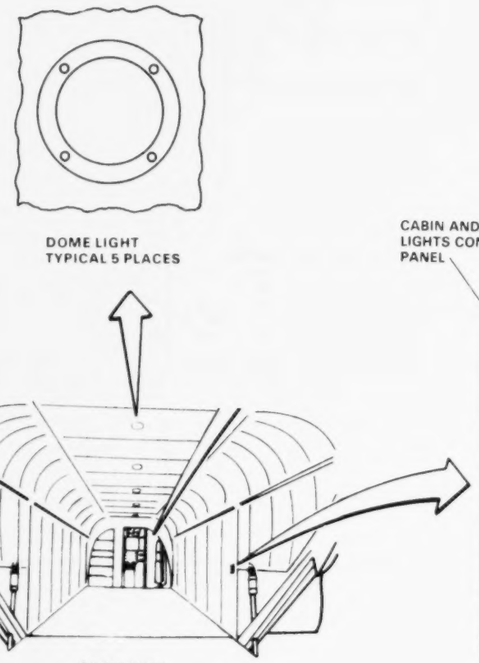
Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



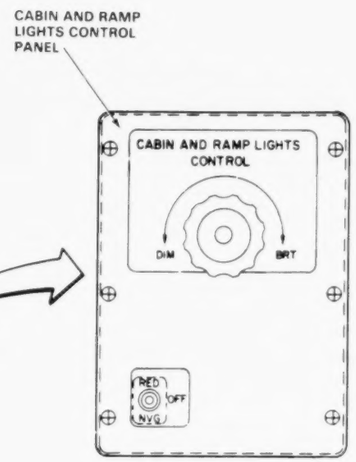
NO. 1 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT



COCKPIT



CABIN VIEW



VIEW LOOKING OUTBOARD RIGHT SIDE AT STA 482

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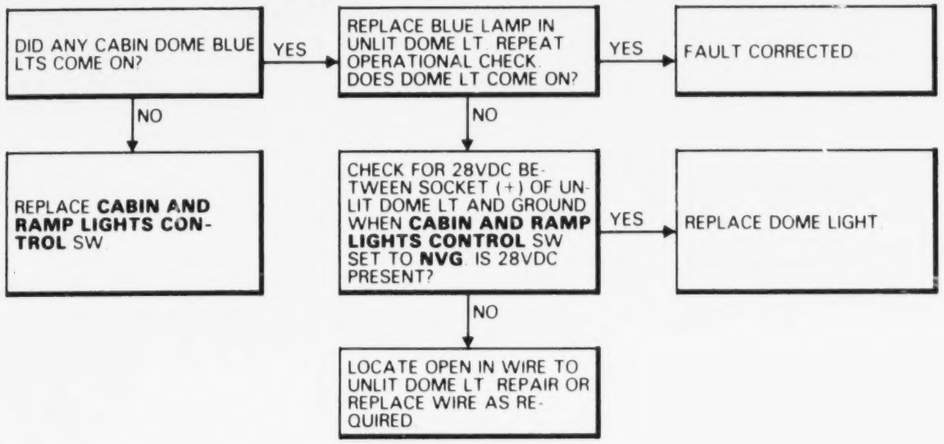
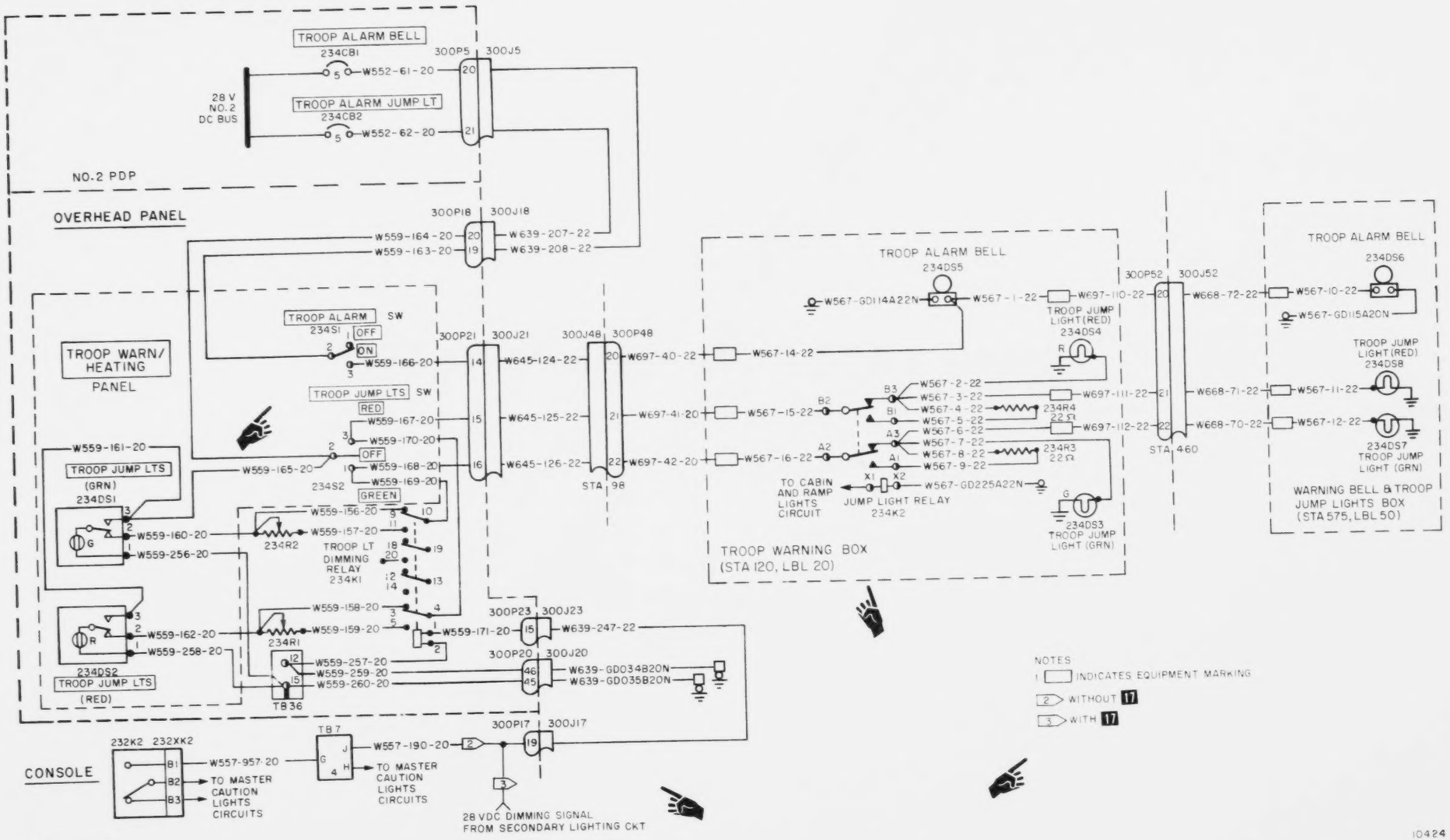
GO TO NEXT PAGE


DID ANY CABIN DOME BLUE LTS COME ON?
YES
REPLACE BLUE LAMP IN UNLIT DOME LT. REPEAT OPERATIONAL CHECK. DOES DOME LT COME ON?
YES
FAULT CORRECTED
NO
REPLACE CABIN AND RAMP LIGHTS CONTROL SW.
NO
CHECK FOR 28VDC BETWEEN SOCKET (+) OF UNLIT DOME LT AND GROUND WHEN CABIN AND RAMP LIGHTS CONTROL SW SET TO NVG. IS 28VDC PRESENT?
YES
REPLACE DOME LIGHT.
NO
LOCATE OPEN IN WIRE TO UNLIT DOME LT. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-16 TROOP WARNING SYSTEM


TROOP ALARM BELL
234CB1
W552-61-20
300P5
300J5
28 V NO. 2 DC BUS
TROOP ALARM JUMP LT
234CB2
W552-62-20
NO.2 PDP
OVERHEAD PANEL
300P18
300J18
W559-164-20
W559-163-20
W639-207-22
W639-208-22
TROOP WARN/ HEATING PANEL
TROOP ALARM SW 234S1
OFF
ON
W559-166-20
TROOP JUMP LTS SW
RED
W559-167-20
W559-170-20
OFF
W559-168-20
W559-169-20
GREEN
234S2
W559-165-20
W559-161-20
TROOP JUMP LTS (GRN) 234DS1
W559-160-20
W559-256-20
234R2
W559-156-20
W559-157-20
TROOP LT DIMMING RELAY 234K1
234R1
W559-158-20
W559-159-20
W559-171-20
234DS2
TROOP JUMP LTS (RED)
W559-162-20
W559-258-20
TB36
W559-257-20
W559-259-20
W559-260-20
300P21
300J21
300J48
300P48
W645-124-22
W645-125-22
W645-126-22
W697-40-22
W697-41-20
W697-42-20
STA 98
300P23
300J23
W639-247-22
300P20
300J20
W639-GD034B20N
W639-GD035B20N
300P17
300J17
TB7
W557-190-20
TO MASTER CAUTION LIGHTS CIRCUITS
28 VDC DIMMING SIGNAL FROM SECONDARY LIGHTING CKT
CONSOLE
232K2 232XK2
W557-957-20
TO MASTER CAUTION LIGHTS CIRCUITS
TROOP ALARM BELL
234DS5
W567-GD114A22N
W567-1-22
W697-110-22
TROOP JUMP LIGHT (RED) 234DS4
W567-14-22
W567-15-22
W567-16-22
W567-2-22
W567-3-22
W567-4-22
W567-5-22
W567-6-22
W567-7-22
W567-8-22
W567-9-22
234R4 22 Ω
234R3 22 Ω
W697-111-22
W697-112-22
TO CABIN AND RAMP LIGHTS CIRCUIT
JUMP LIGHT RELAY 234K2
W567-GD225A22N
234DS3 TROOP JUMP LIGHT (GRN)
TROOP WARNING BOX (STA 120, LBL 20)
300P52
300J52
W668-72-22
W668-71-22
W668-70-22
STA 460
TROOP ALARM BELL
234DS6
W567-10-22
W567-GD115A20N
TROOP JUMP LIGHT (RED) 234DS8
W567-11-22
W567-12-22
234DS7 TROOP JUMP LIGHT (GRN)
WARNING BELL & TROOP JUMP LIGHTS BOX (STA 575, LBL 50)
NOTES
1 INDICATES EQUIPMENT MARKING
2 WITHOUT 17
3 WITH 17
234 100A, 110A
10424

9-16.2 TROOP WARNING SYSTEM VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

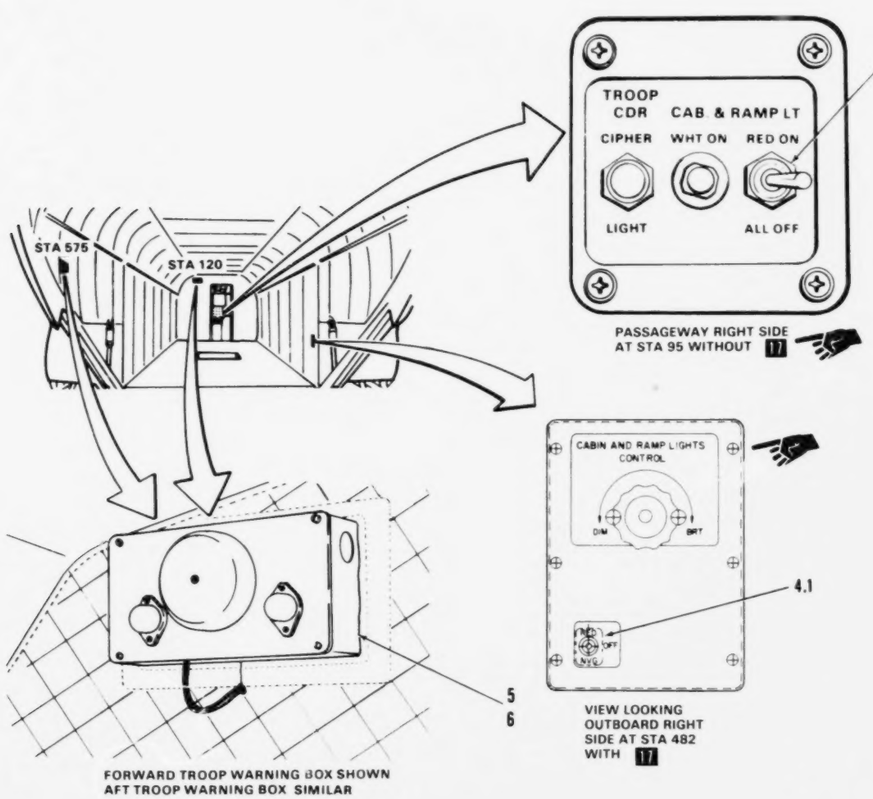
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

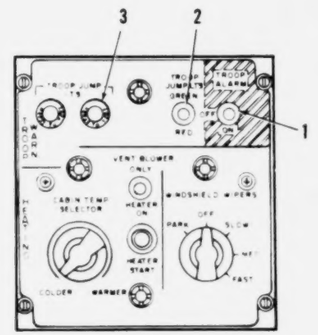
Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off



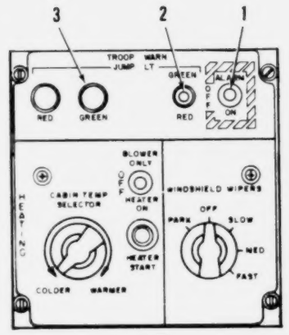
PASSAGEWAY RIGHT SIDE AT STA 95 WITHOUT 17

VIEW LOOKING OUTBOARD RIGHT SIDE AT STA 482 WITH 17

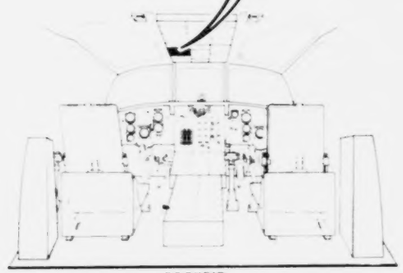
FORWARD TROOP WARNING BOX SHOWN
AFT TROOP WARNING BOX SIMILAR



TROOP WARN/HEATING PANEL WITHOUT 17



WITH 17



COCKPIT

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GO TO NEXT PAGE

TASK	RESULT
1. **Check TROOP ALARM switch (1).**	If switch (1) is loose or broken, tighten or replace it as required.
2. **Check TROOP JUMP LTS switch (2).**	If switch (2) is loose or broken, tighten or replace it as required.
3. **Check TROOP JUMP LTS (3).**	If lights (3) are loose or damaged, tighten or replace it as required.
4. **Without 17, check CAB & RAMP LT RED ON/ALL OFF swtich (4).**	If switch (4) is loose or broken, tighten or replace it as required.
4.1. **WITH 17, check CABIN AND RAMP LIGHTS CONTROL switch (4.1).**	If switch (4.1) is loose or broken, tighten or replace it as required.
5. **Check forward troop warning box (5).**	If lens or gong is loose or damaged, tighten or replace them as required.
6. **Check aft troop warning box (6).**	If lens or gong is loose or damaged, tighten or replace them as required.

FOLLOW-ON MAINTENANCE:
None

END OF TASK

9-16.3 TROOP WARNING SYSTEM OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

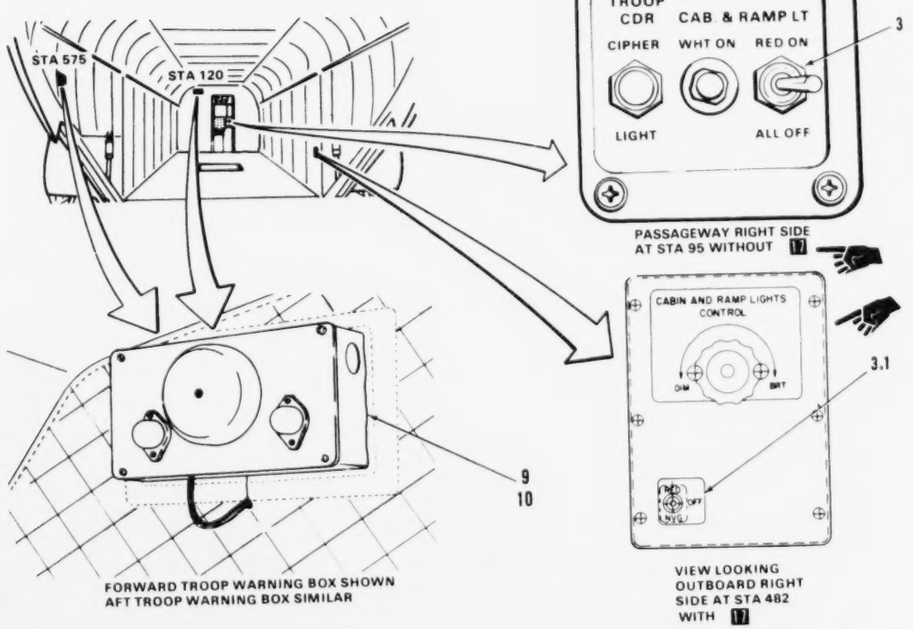
Tools:
None

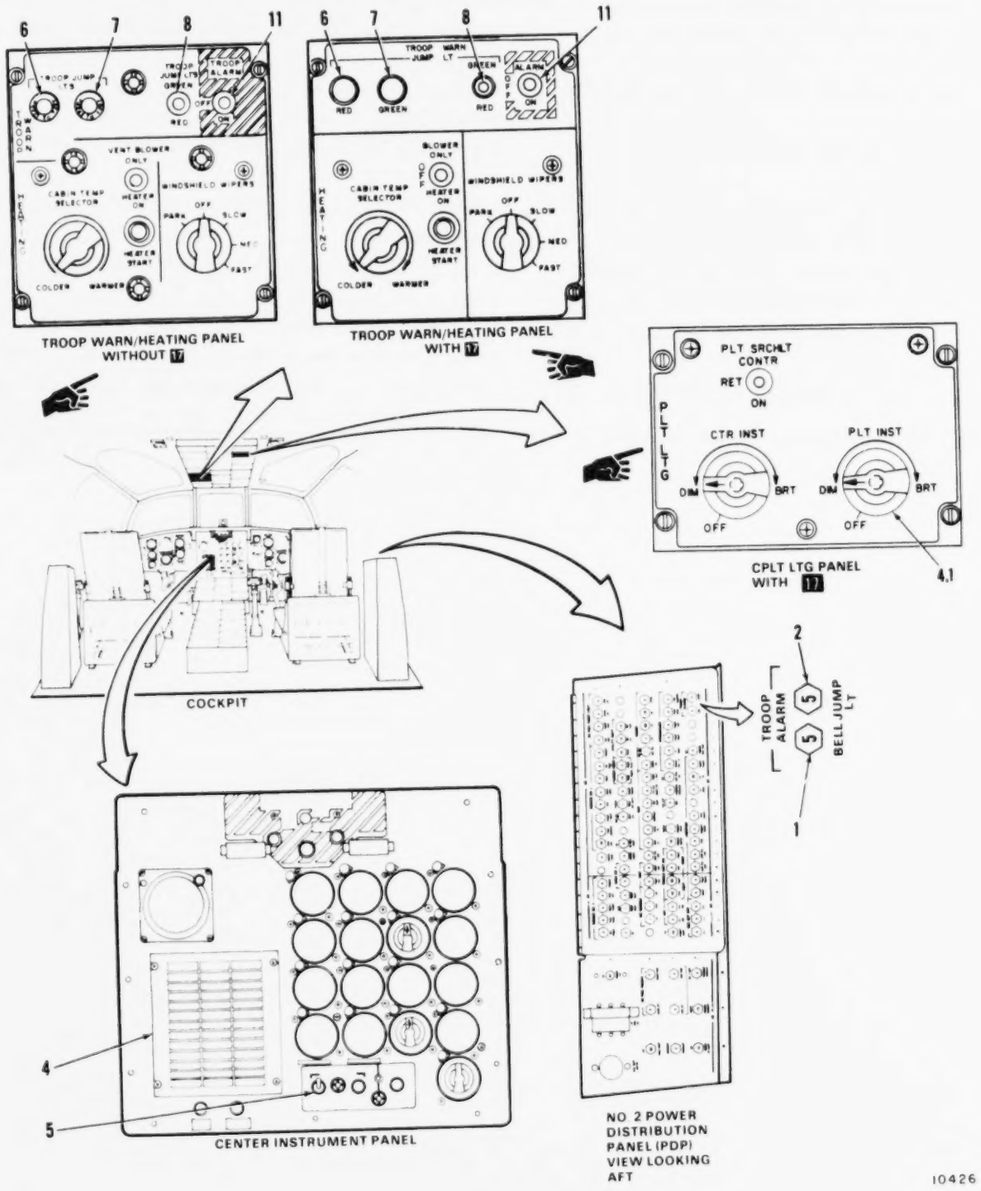
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Troop Warning System Visual Check Performed (Task 9-16.2)





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9-16.3 TROOP WARNING SYSTEM OPERATIONAL CHECK (Continued)

TASK	RESULT
1. **Check** that **TROOP ALARM BELL circuit breaker (1)** is closed.	If circuit breaker is open, close it. If it opens again, go to task 9-16.4.
2. **Check** that **TROOP ALARM JUMP LT circuit breaker (2)** is closed.	If circuit breaker is open, close it. If it opens again, go to task 9-16.5.
3. Without 17, check that **red dome lights in cabin and ramp area are not on.** If red dome lights are on, momentarily set the CAB & RAMP LTS switch (3) to ALL/OFF.	If red lights remain on, go to task 9-15.3.
3.1. With 17, check that **red dome lights in cabin** and **ramp area are not on.** If **red dome lights are on, set CABIN AND RAMP LIGHTS CONTROL switch (3.1)** to **OFF.**	
4. **Without 17, check** that **lights in master caution panel (4) are bright.** If not, set master caution **DIM/BRIGHT** switch to **BRIGHT**.	If lights do not come on bright, go to task 9-18.3.
4.1. **With 17, set PLT INST lights control (4.1)** to **OFF**.	
5. **Press and release left TROOP JUMP LTS** light (6).	Light (6) shall momentarily come on red. If not, go to task 9-16.6.
6. **Press and release right TROOP JUMP LTS** light (7).	Light (7) shall momentarily come on green. If not, go to task 9-16.7.
7. **Set TROOP JUMP LTS switch (8)** to **RED**.	Red lights on forward and aft troop warning boxes (9 and 10) and red TROOP JUMP LTS light (6) shall come on bright. If not, go to task 9-16.8. With 17, if red lights come on dim, replace PLT INST lights control (4.1).
8. Without 17, momentarily **set CAB & RAMP LTS switch (3)** to **RED ON. With 17, set CABIN AND RAMP LIGHTS CONTROL switch (3.1)** to **RED**.	Red lights on forward and aft troop warning boxes (9 and 10) shall change from bright to dim. If not, go to task 9-16.9.
9. Without 17, momentarily **set CAB & RAMP LTS switch (3)** to **ALL OFF**. With 17, **set CABIN AND RAMP LIGHTS CONTROL switch (3.1)** to **OFF**.	Red lights on forward and aft troop warning boxes (9 and 10) shall change from dim to bright. If not, replace jump light relay.
10. Without 17, momentarily **set CAUTION LIGHTS BRIGHT-DIM switch (5)** to **DIM**.	Red TROOP JUMP LTS light (6) shall change from bright to dim. If not, go to task 9-16.10.
10.1. With 17, **set PLT INST lights control (4.1)** to **DIM**.	Red TROOP JUMP LTS light (6) shall change from bright to dim. If not, go to task 9-16.15.
11. Without 17, momentarily **set CAUTION LIGHTS BRIGHT-DIM switch (5)** to **BRIGHT**.	Red TROOP JUMP LTS light (6) shall change from dim to bright. If not, replace troop light dimming relay.
11.1. With 17, set **PLT INST lights control (4.1)** to **OFF**.	Red TROOP JUMP LTS light (6) shall change from dim to bright. If not, replace troop light dimming relay.
12. **Set TROOP JUMP LTS switch (8)** to **GREEN**.	Red lights on forward and aft troop warning boxes (9 and 10) shall go out and green lights shall come on bright. Green TROOP JUMP LTS light (7) shall come on bright. If red lights are still on and green lights are out, go to task 9-16.11.
13. Without 17, momentarily **set CAB & RAMP LTS switch (3)** to **RED ON**. With 17, **set CABIN AND RAMP LIGHTS CONTROL switch (3.1)** to **RED**.	Green lights on forward and aft troop warning boxes (9 and 10) shall change from bright to dim. If not, go to task 9-16.12.
14. Without 17, momentarily **set CAB & RAMP LTS switch (3)** to **ALL OFF**. With 17, **set CABIN AND RAMP LIGHTS CONTROL switch (3.1)** to **OFF**.	Green lights on forward and aft troop warning boxes (9 and 10) shall change from dim to bright. If not, replace jump light relay.
15. Without 17, momentarily **set CAUTION LIGHTS BRIGHT-DIM switch (4)** to **DIM**. With 17, **set PLT INST lights control (4.1)** to **DIM**.	Green TROOP JUMP LTS light (7) shall change from bright to dim. If not, go to task 9-16.13.
16. Without 17, momentarily **set CAUTION LIGHTS BRIGHT DIM switch (4)** to **BRIGHT**. With 17, **set PLT INST lights control (4.1)** to **OFF**.	Green TROOP JUMP LTS light (7) shall change from dim to bright. If not, replace troop light dimming relay.
17. **Set TROOP JUMP LTS switch (8)** to **OFF**.	Green lights on both troop warning boxes (9 and 10) and green TROOP JUMP LTS light (7) shall go out. If not, replace TROOP JUMP LTS switch (8).
18. **Set TROOP ALARM switch (11)** to **ON**.	Alarm bells on the forward and aft troop warning boxes (9 and 10) shall sound. If not, go to task 9-16.14.
19. **Set TROOP ALARM switch (11)** to **OFF**.	Both alarm bells shall stop.

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

END OF TASK

9-16.4 TROOP ALARM BELL CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

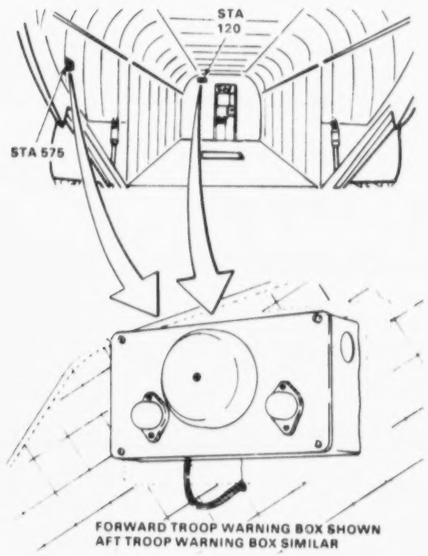
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

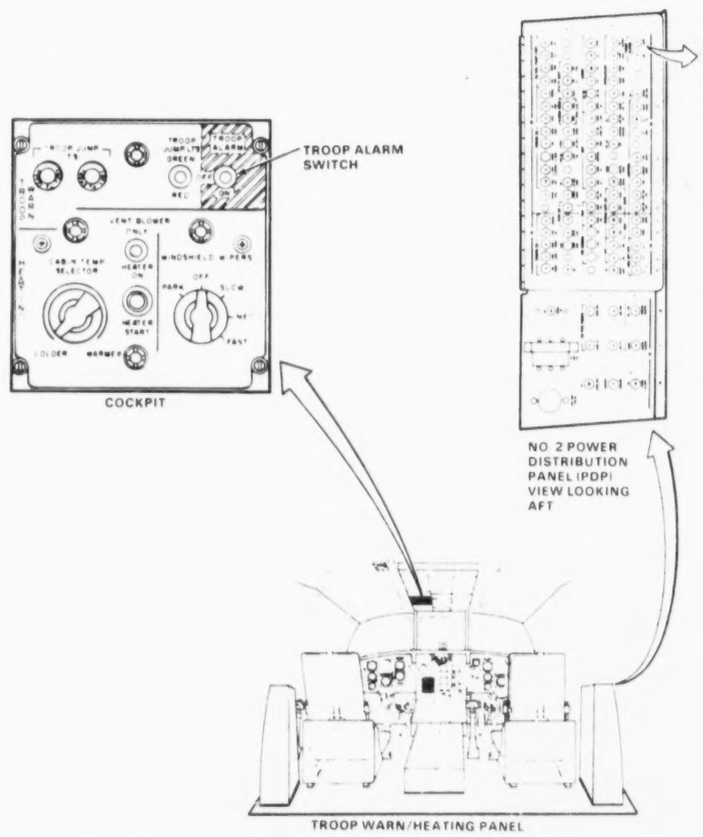
Personnel Required
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
Battery Connected
Electrical Power On
Hydraulic Power Off



90 X 54



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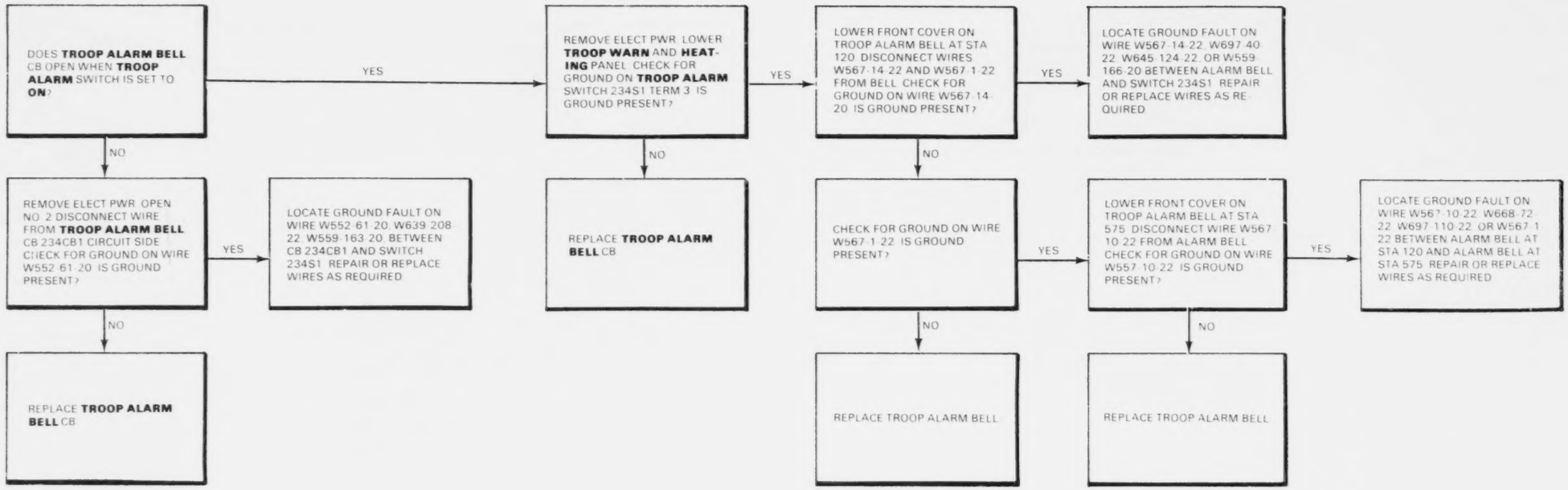
9-16.4 TROOP ALARM BELL CIRCUIT BREAKER WILL NOT STAY CLOSED (Continued)


DOES **TROOP ALARM BELL** CB OPEN WHEN **TROOP ALARM** SWITCH IS SET TO **ON**?
YES
NO
REMOVE ELECT PWR. OPEN NO. 2 DISCONNECT WIRE FROM **TROOP ALARM BELL** CB 234CB1 CIRCUIT SIDE. CHECK FOR GROUND ON WIRE W552-61-20. IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W552-61-20, W639-208-22, W559-163-20 BETWEEN CB 234CB1 AND SWITCH 234S1. REPAIR OR REPLACE WIRES AS REQUIRED
NO
REPLACE **TROOP ALARM BELL** CB
REMOVE ELECT PWR. LOWER **TROOP WARN** AND **HEATING** PANEL. CHECK FOR GROUND ON **TROOP ALARM** SWITCH 234S1 TERM 3. IS GROUND PRESENT?
YES
NO
REPLACE **TROOP ALARM BELL** CB
LOWER FRONT COVER ON TROOP ALARM BELL AT STA 120. DISCONNECT WIRES W567-14-22 AND W567-1-22 FROM BELL. CHECK FOR GROUND ON WIRE W567-14-20. IS GROUND PRESENT?
YES
NO
CHECK FOR GROUND ON WIRE W567-1-22. IS GROUND PRESENT?
YES
NO
REPLACE TROOP ALARM BELL
LOCATE GROUND FAULT ON WIRE W567-14-22, W697-40-22, W645-124-22, OR W559-166-20 BETWEEN ALARM BELL AND SWITCH 234S1. REPAIR OR REPLACE WIRES AS REQUIRED
LOWER FRONT COVER ON TROOP ALARM BELL AT STA 575. DISCONNECT WIRE W567-10-22 FROM ALARM BELL. CHECK FOR GROUND ON WIRE W557-10-22. IS GROUND PRESENT?
YES
NO
REPLACE TROOP ALARM BELL
LOCATE GROUND FAULT ON WIRE W567-10-22, W668-72-22, W697-110-22, OR W567-1-22 BETWEEN ALARM BELL AT STA 120 AND ALARM BELL AT STA 575. REPAIR OR REPLACE WIRES AS REQUIRED

END OF TASK

9-16.5 TROOP ALARM JUMP LTS CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

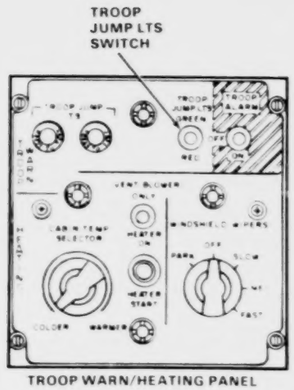
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

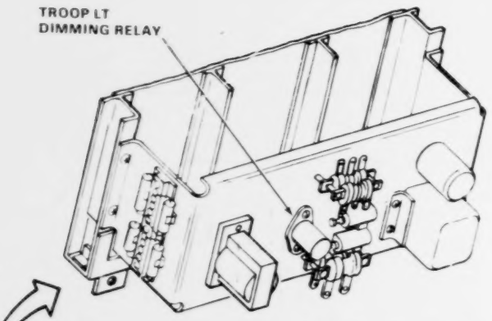
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

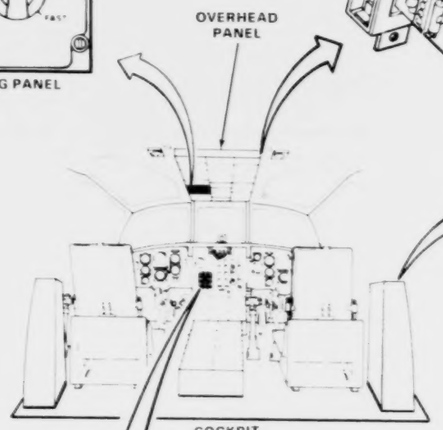
Equipment Condition:
Battery Connected
Electrical Power On
Hydraulic Power Off

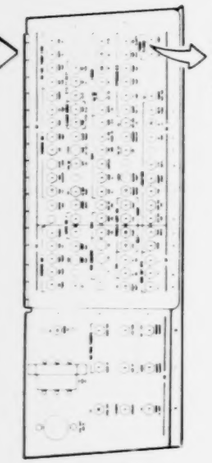


TROOP WARN/HEATING PANEL

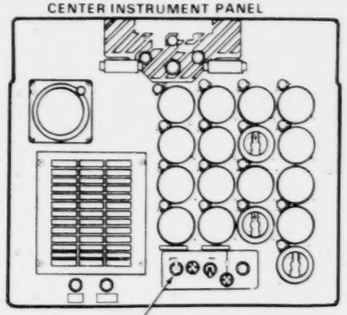


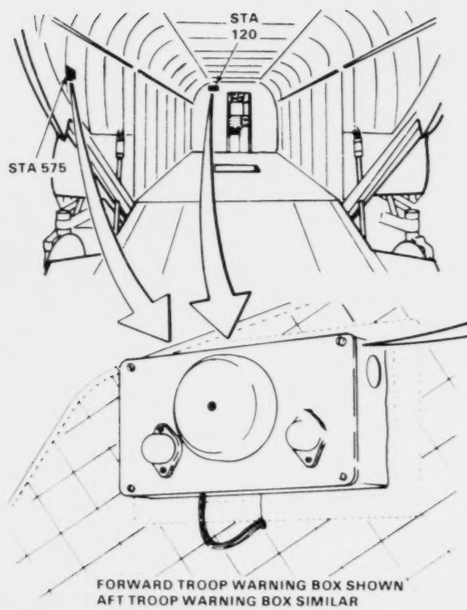
VIEW SHOWING OVERHEAD PANEL LOWERED



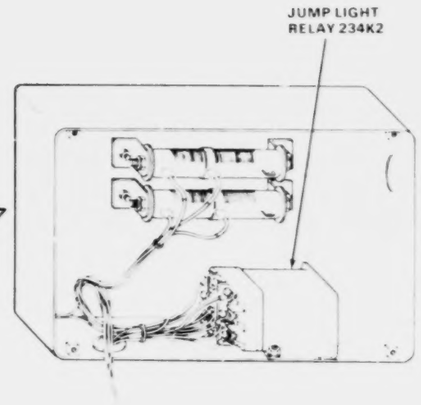


NO 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT





FORWARD TROOP WARNING BOX SHOWN
AFT TROOP WARNING BOX SIMILAR



TROOP WARNING BOX AT STA 120 SHOWN WITH FRONT COVER REMOVED

90 x 54

D145-11769-SPA

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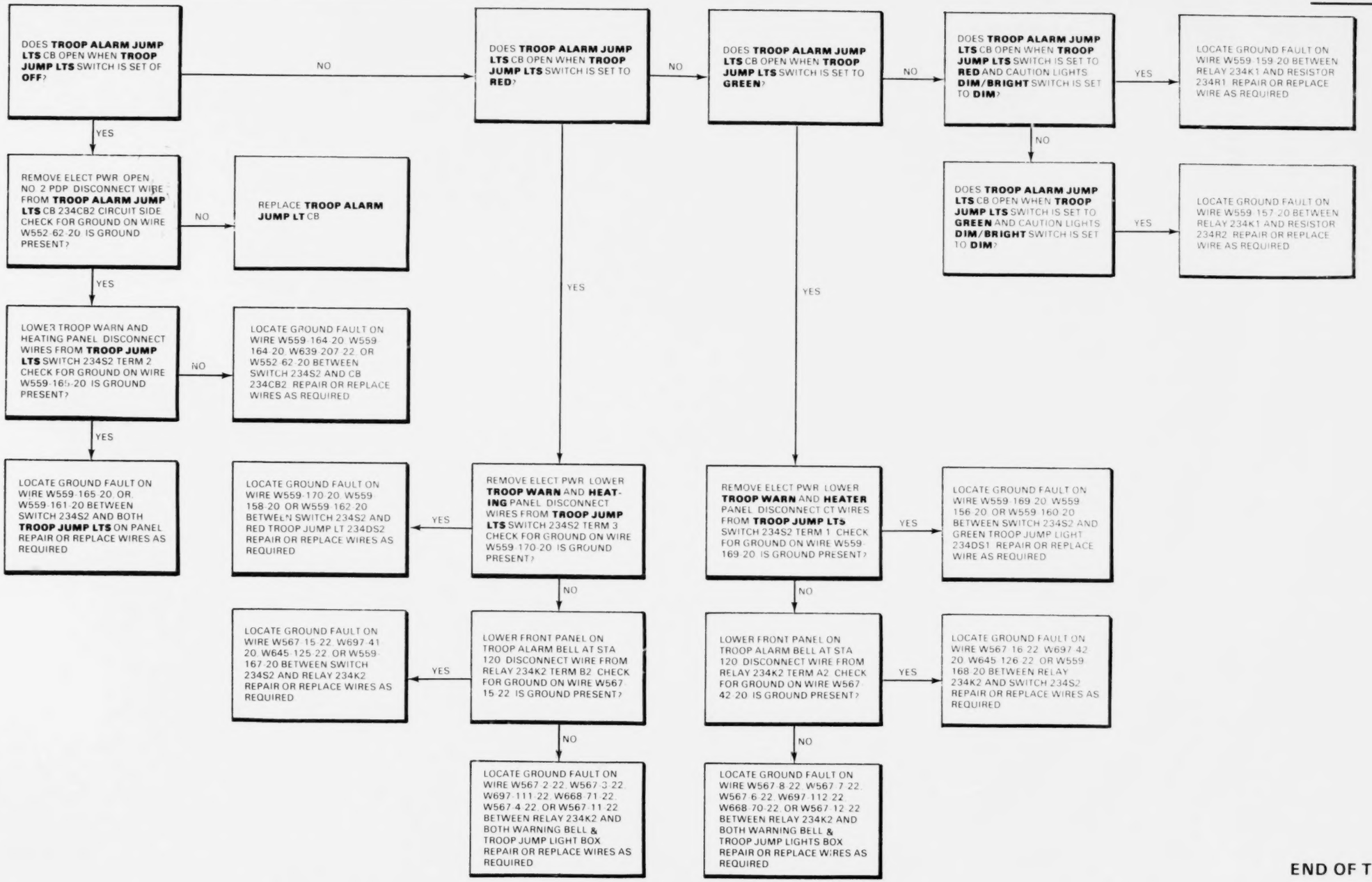
9-16.5 TROOP ALARM JUMP LTS CIRCUIT BREAKER WILL NOT STAY CLOSED (Continued)


DOES TROOP ALARM JUMP LTS CB OPEN WHEN TROOP JUMP LTS SWITCH IS SET OF OFF?
NO
YES
REMOVE ELECT PWR OPEN NO 2 PDP DISCONNECT WIRE FROM TROOP ALARM JUMP LTS CB 234CB2 CIRCUIT SIDE CHECK FOR GROUND ON WIRE W552-62-20 IS GROUND PRESENT?
NO
REPLACE TROOP ALARM JUMP LT CB
YES
LOWER TROOP WARN AND HEATING PANEL DISCONNECT WIRES FROM TROOP JUMP LTS SWITCH 234S2 TERM 2 CHECK FOR GROUND ON WIRE W559-165-20 IS GROUND PRESENT?
NO
LOCATE GROUND FAULT ON WIRE W559-164-20 W559-164-20 W639-207-22 OR W552-62-20 BETWEEN SWITCH 234S2 AND CB 234CB2 REPAIR OR REPLACE WIRES AS REQUIRED
YES
LOCATE GROUND FAULT ON WIRE W559-165-20 OR W559-161-20 BETWEEN SWITCH 234S2 AND BOTH TROOP JUMP LTS ON PANEL REPAIR OR REPLACE WIRES AS REQUIRED
DOES TROOP ALARM JUMP LTS CB OPEN WHEN TROOP JUMP LTS SWITCH IS SET TO RED?
NO
YES
LOCATE GROUND FAULT ON WIRE W559-170-20 W559-158-20 OR W559-162-20 BETWEEN SWITCH 234S2 AND RED TROOP JUMP LT 234DS2 REPAIR OR REPLACE WIRES AS REQUIRED
REMOVE ELECT PWR LOWER TROOP WARN AND HEATING PANEL DISCONNECT WIRES FROM TROOP JUMP LTS SWITCH 234S2 TERM 3 CHECK FOR GROUND ON WIRE W559-170-20 IS GROUND PRESENT?
NO
LOCATE GROUND FAULT ON WIRE W567-15-22 W697-41-20 W645-125-22 OR W559-167-20 BETWEEN SWITCH 234S2 AND RELAY 234K2 REPAIR OR REPLACE WIRES AS REQUIRED
YES
LOWER FRONT PANEL ON TROOP ALARM BELL AT STA 120 DISCONNECT WIRE FROM RELAY 234K2 TERM B2 CHECK FOR GROUND ON WIRE W567-15-22 IS GROUND PRESENT?
NO
LOCATE GROUND FAULT ON WIRE W567-2-22 W567-3-22 W697-111-22 W668-71-22 W567-4-22 OR W567-11-22 BETWEEN RELAY 234K2 AND BOTH WARNING BELL & TROOP JUMP LIGHT BOX REPAIR OR REPLACE WIRES AS REQUIRED
DOES TROOP ALARM JUMP LTS CB OPEN WHEN TROOP JUMP LTS SWITCH IS SET TO GREEN?
NO
YES
REMOVE ELECT PWR LOWER TROOP WARN AND HEATER PANEL DISCONNECT CT WIRES FROM TROOP JUMP LTS SWITCH 234S2 TERM 1 CHECK FOR GROUND ON WIRE W559-169-20 IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W559-169-20 W559-156-20 OR W559-160-20 BETWEEN SWITCH 234S2 AND GREEN TROOP JUMP LIGHT 234DS1 REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOWER FRONT PANEL ON TROOP ALARM BELL AT STA 120 DISCONNECT WIRE FROM RELAY 234K2 TERM A2 CHECK FOR GROUND ON WIRE W567-42-20 IS GROUND PRESENT?
YES
LOCATE GROUND FAULT ON WIRE W567-16-22 W697-42-20 W645-126-22 OR W559-168-20 BETWEEN RELAY 234K2 AND SWITCH 234S2 REPAIR OR REPLACE WIRES AS REQUIRED
NO
LOCATE GROUND FAULT ON WIRE W567-8-22 W567-7-22 W567-6-22 W697-112-22 W668-70-22 OR W567-12-22 BETWEEN RELAY 234K2 AND BOTH WARNING BELL & TROOP JUMP LIGHTS BOX REPAIR OR REPLACE WIRES AS REQUIRED
DOES TROOP ALARM JUMP LTS CB OPEN WHEN TROOP JUMP LTS SWITCH IS SET TO RED AND CAUTION LIGHTS DIM/BRIGHT SWITCH IS SET TO DIM?
YES
LOCATE GROUND FAULT ON WIRE W559-159-20 BETWEEN RELAY 234K1 AND RESISTOR 234R1 REPAIR OR REPLACE WIRE AS REQUIRED
NO
DOES TROOP ALARM JUMP LTS CB OPEN WHEN TROOP JUMP LTS SWITCH IS SET TO GREEN AND CAUTION LIGHTS DIM/BRIGHT SWITCH IS SET TO DIM?
YES
LOCATE GROUND FAULT ON WIRE W559-157-20 BETWEEN RELAY 234K1 AND RESISTOR 234R2 REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

9-16.6 LEFT TROOP JUMP LTS LIGHT DOES NOT COME ON WHEN PRESSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

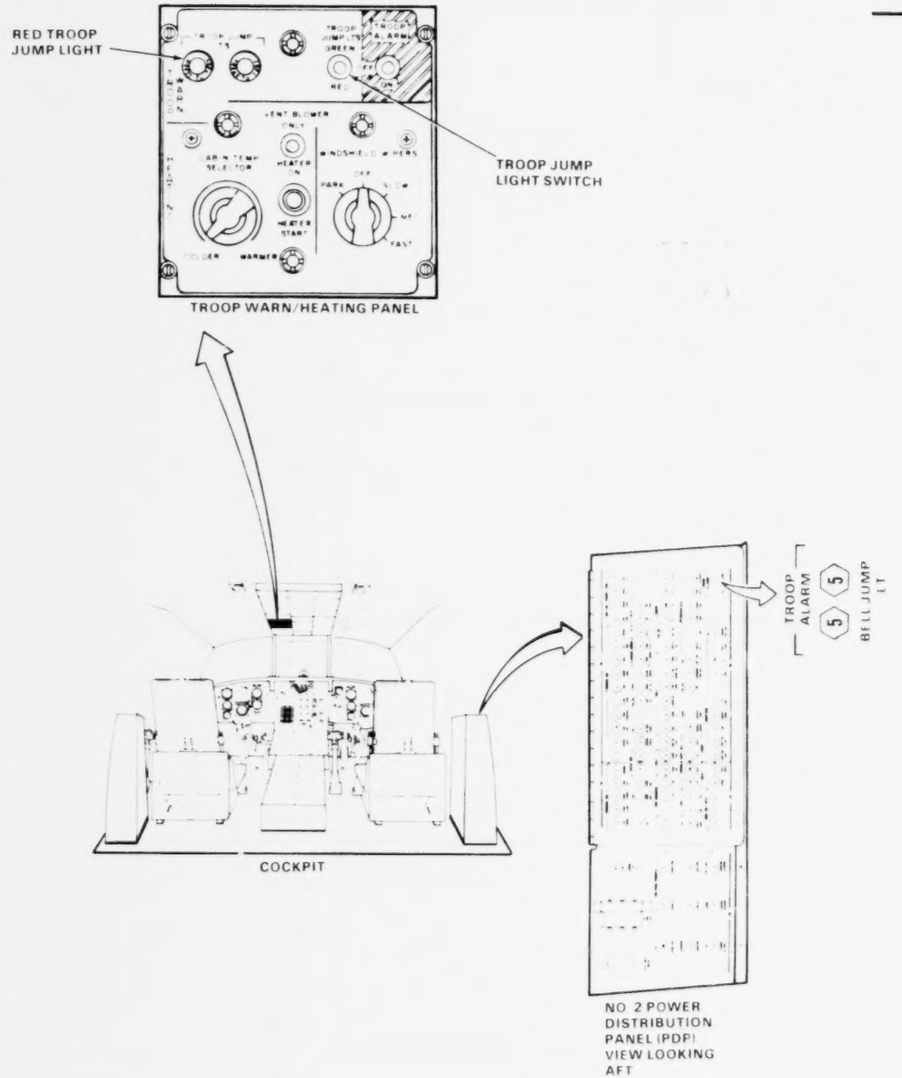
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
Battery Connected
Electrical Power On
Hydraulic Power Off



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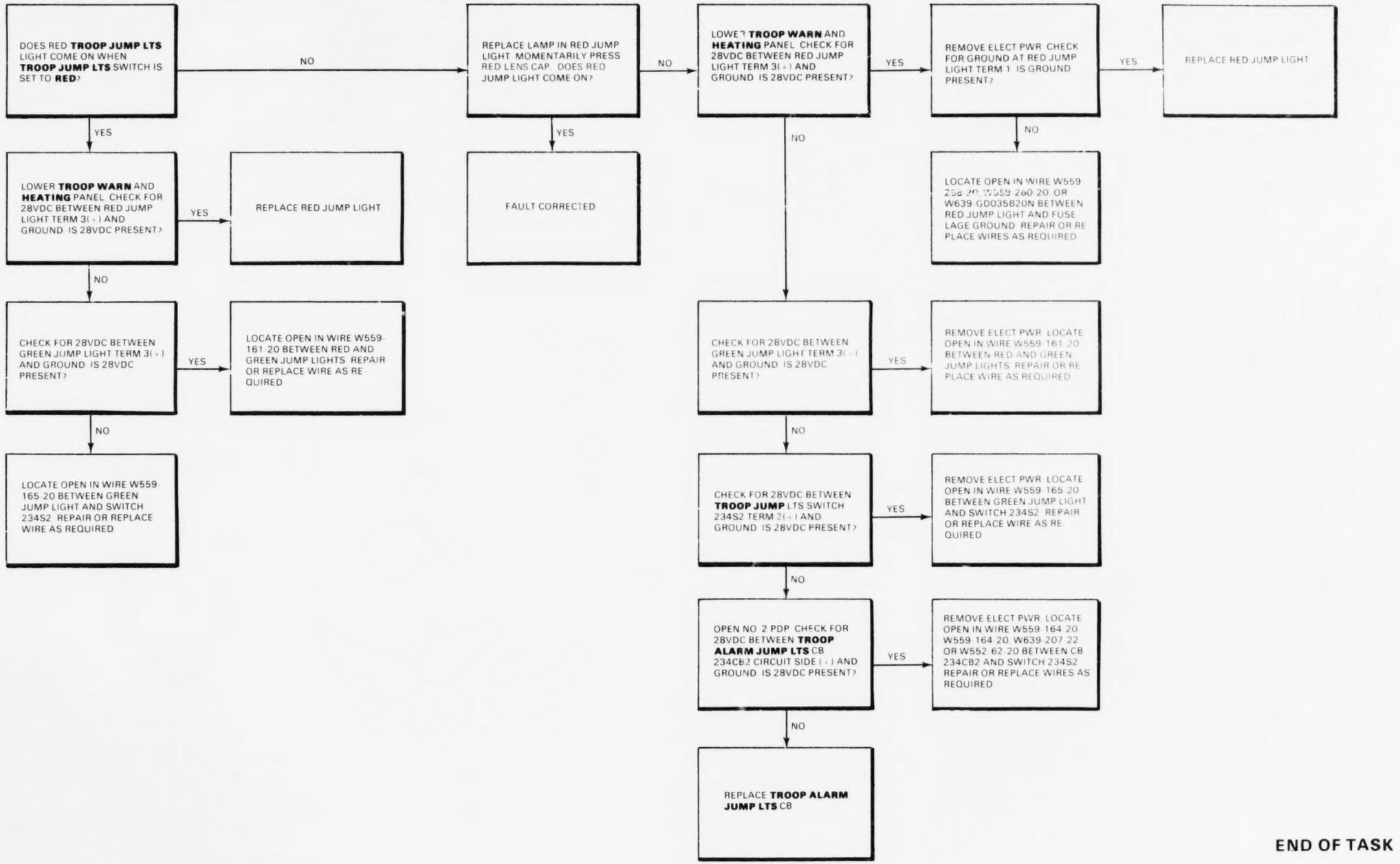
9-16.6 LEFT TROOP JUMP LTS LIGHT DOES NOT COME ON WHEN PRESSED (Continued)


DOES RED **TROOP JUMP LTS** LIGHT COME ON WHEN **TROOP JUMP LTS** SWITCH IS SET TO **RED**?
NO
REPLACE LAMP IN RED JUMP LIGHT. MOMENTARILY PRESS RED LENS CAP. DOES RED JUMP LIGHT COME ON?
NO
LOWER **TROOP WARN** AND **HEATING** PANEL. CHECK FOR 28VDC BETWEEN RED JUMP LIGHT TERM 3(+) AND GROUND. IS 28VDC PRESENT?
YES
REMOVE ELECT PWR. CHECK FOR GROUND AT RED JUMP LIGHT TERM 1. IS GROUND PRESENT?
YES
REPLACE RED JUMP LIGHT
YES
FAULT CORRECTED
YES
REPLACE RED JUMP LIGHT
NO
LOCATE OPEN IN WIRE W559-258-20, W559-260-20, OR W639-GD035B20N BETWEEN RED JUMP LIGHT AND FUSELAGE GROUND. REPAIR OR REPLACE WIRES AS REQUIRED
NO
CHECK FOR 28VDC BETWEEN GREEN JUMP LIGHT TERM 3(+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W559-161-20 BETWEEN RED AND GREEN JUMP LIGHTS. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REMOVE ELECT PWR. LOCATE OPEN IN WIRE W559-161-20 BETWEEN RED AND GREEN JUMP LIGHTS. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W559-165-20 BETWEEN GREEN JUMP LIGHT AND SWITCH 234S2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
CHECK FOR 28VDC BETWEEN **TROOP JUMP** LTS SWITCH 234S2 TERM 2(+) AND GROUND. IS 28VDC PRESENT?
YES
REMOVE ELECT PWR. LOCATE OPEN IN WIRE W559-165-20 BETWEEN GREEN JUMP LIGHT AND SWITCH 234S2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
OPEN NO. 2 PDP. CHECK FOR 28VDC BETWEEN **TROOP ALARM JUMP LTS** CB 234CB2 CIRCUIT SIDE (+) AND GROUND. IS 28VDC PRESENT?
YES
REMOVE ELECT PWR. LOCATE OPEN IN WIRE W559-164-20, W559-164-20, W639-207-22, OR W552-62-20 BETWEEN CB 234CB2 AND SWITCH 234S2. REPAIR OR REPLACE WIRES AS REQUIRED
NO
REPLACE **TROOP ALARM JUMP LTS** CB

END OF TASK

9-16.7 RIGHT TROOP JUMP LTS LIGHT DOES NOT COME ON WHEN PRESSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

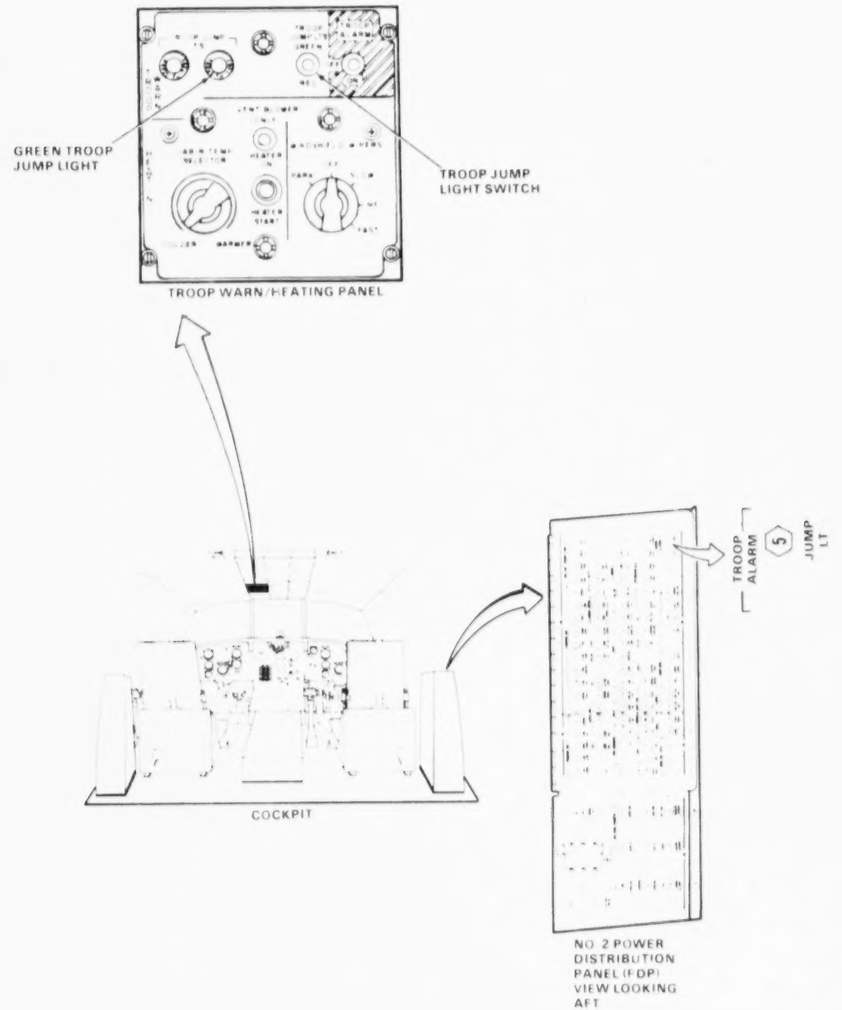
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
Battery Connected
electrical Power On
Hydraulic Power Off



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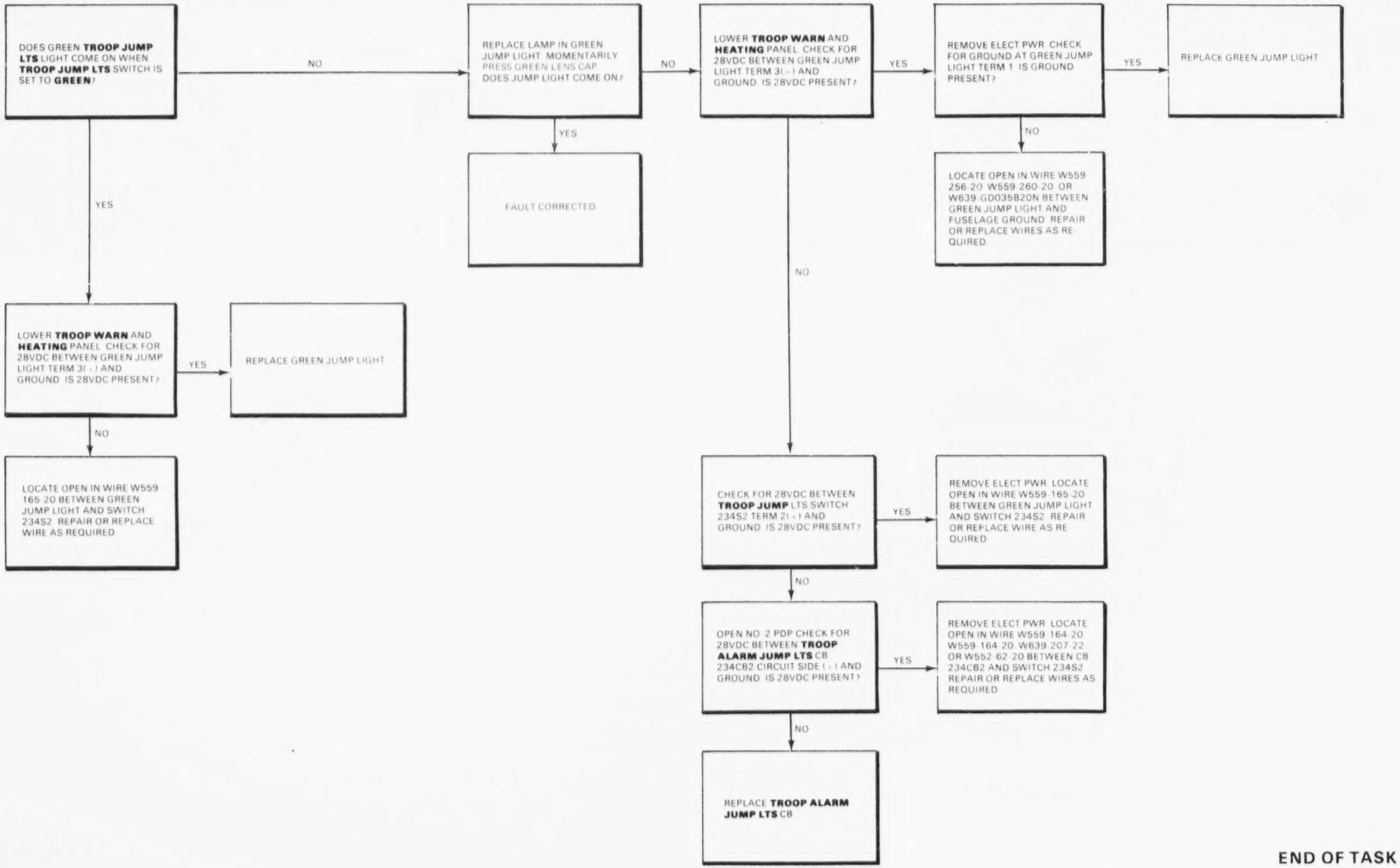
9-16.7 RIGHT TROOP JUMP LTS LIGHT DOES NOT COME ON WHEN PRESSED (Continued)


DOES GREEN TROOP JUMP LTS LIGHT COME ON WHEN TROOP JUMP LTS SWITCH IS SET TO GREEN?
NO
REPLACE LAMP IN GREEN JUMP LIGHT MOMENTARILY PRESS GREEN LENS CAP. DOES JUMP LIGHT COME ON?
YES
FAULT CORRECTED
NO
LOWER TROOP WARN AND HEATING PANEL CHECK FOR 28VDC BETWEEN GREEN JUMP LIGHT TERM 3(-) AND GROUND IS 28VDC PRESENT?
YES
REMOVE ELECT PWR CHECK FOR GROUND AT GREEN JUMP LIGHT TERM 1 IS GROUND PRESENT?
YES
REPLACE GREEN JUMP LIGHT
NO
LOCATE OPEN IN WIRE W559 256-20 W559-260-20 OR W639-GD035B20N BETWEEN GREEN JUMP LIGHT AND FUSELAGE GROUND REPAIR OR REPLACE WIRES AS REQUIRED
YES
LOWER TROOP WARN AND HEATING PANEL CHECK FOR 28VDC BETWEEN GREEN JUMP LIGHT TERM 3(-) AND GROUND IS 28VDC PRESENT?
YES
REPLACE GREEN JUMP LIGHT
NO
LOCATE OPEN IN WIRE W559-165-20 BETWEEN GREEN JUMP LIGHT AND SWITCH 234S2 REPAIR OR REPLACE WIRE AS REQUIRED
NO
CHECK FOR 28VDC BETWEEN TROOP JUMP LTS SWITCH 234S2 TERM 2(-) AND GROUND IS 28VDC PRESENT?
YES
REMOVE ELECT PWR LOCATE OPEN IN WIRE W559-165-20 BETWEEN GREEN JUMP LIGHT AND SWITCH 234S2 REPAIR OR REPLACE WIRE AS REQUIRED
NO
OPEN NO 2 PDP CHECK FOR 28VDC BETWEEN TROOP ALARM JUMP LTS CB 234CB2 CIRCUIT SIDE (-) AND GROUND IS 28VDC PRESENT?
YES
REMOVE ELECT PWR LOCATE OPEN IN WIRE W559-164-20 W559-164-20 W639-207-22 OR W552-62-20 BETWEEN CB 234CB2 AND SWITCH 234S2 REPAIR OR REPLACE WIRES AS REQUIRED
NO
REPLACE TROOP ALARM JUMP LTS CB

END OF TASK

9-16.8 RED LIGHT ON FWD OR AFT TROOP WARNING BOX OR RED TROOP JUMP LTS LIGHT DO NOT COME ON BRIGHT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

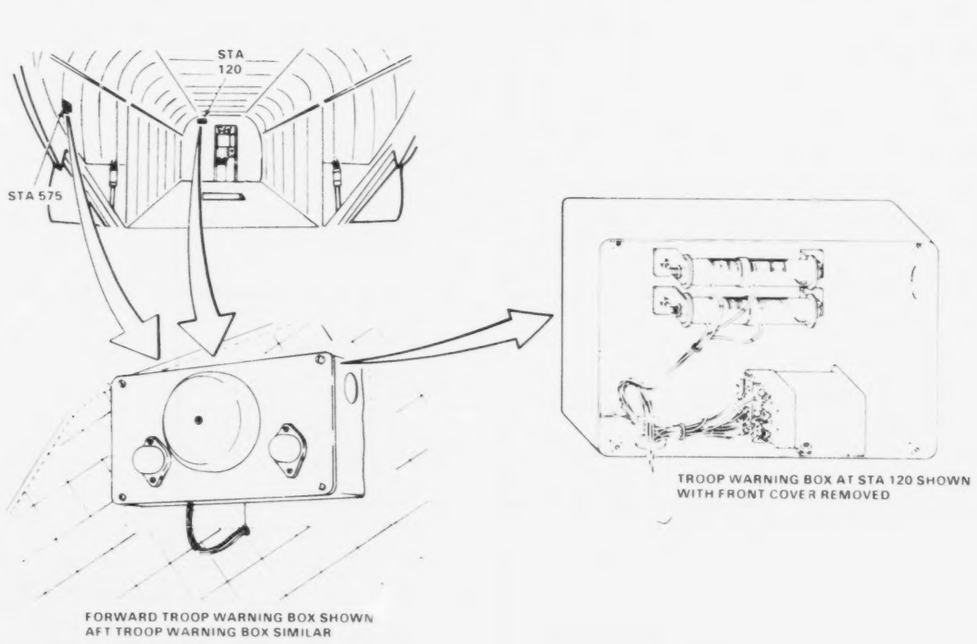
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

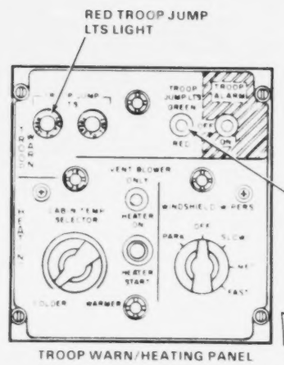
References:
TM 55-1520-240-23

Equipment Condition:
Battery Connected
Electrical Power On
Hydraulic Power Off

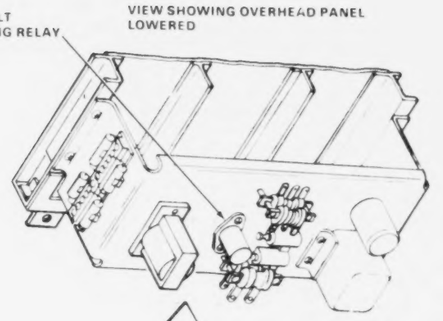


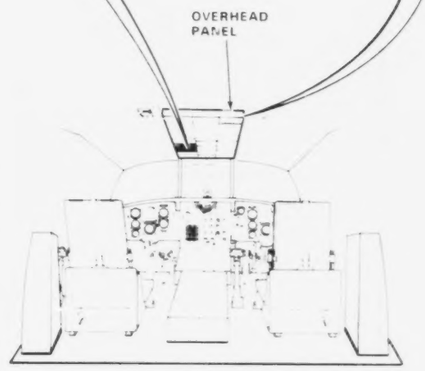
FORWARD TROOP WARNING BOX SHOWN
AFT TROOP WARNING BOX SIMILAR

TROOP WARNING BOX AT STA 120 SHOWN
WITH FRONT COVER REMOVED



TROOP WARN/HEATING PANEL





COCKPIT

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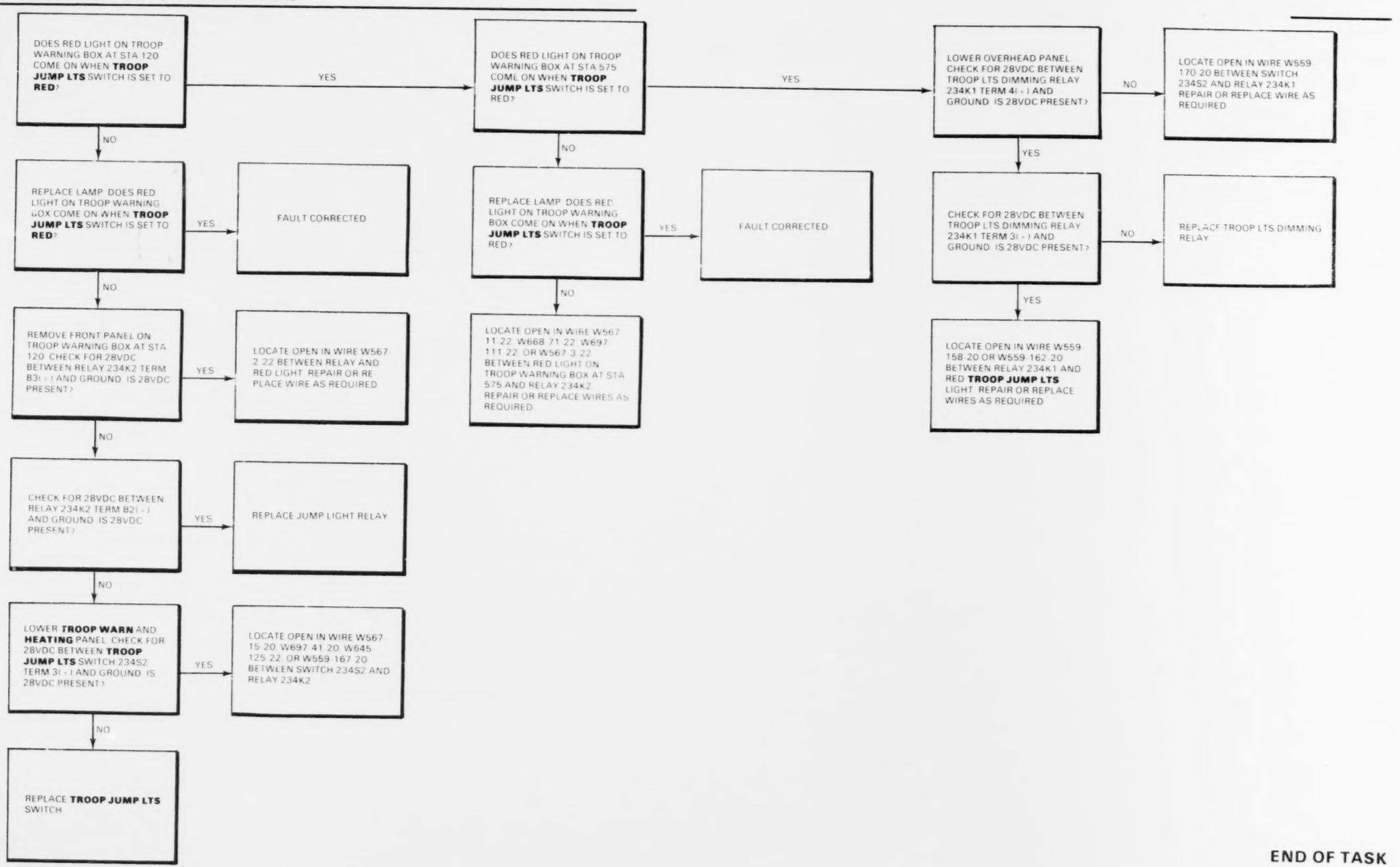
9-16.8 RED LIGHT ON FWD OR AFT TROOP WARNING BOX OR RED TROOP JUMP LTS LIGHT DO NOT COME ON BRIGHT (Continued)


DOES RED LIGHT ON TROOP WARNING BOX AT STA 120 COME ON WHEN **TROOP JUMP LTS** SWITCH IS SET TO **RED**?
YES
DOES RED LIGHT ON TROOP WARNING BOX AT STA 575 COME ON WHEN **TROOP JUMP LTS** SWITCH IS SET TO RED?
YES
LOWER OVERHEAD PANEL CHECK FOR 28VDC BETWEEN TROOP LTS DIMMING RELAY 234K1 TERM 4(+) AND GROUND IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W559 170 20 BETWEEN SWITCH 234S2 AND RELAY 234K1 REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE LAMP DOES RED LIGHT ON TROOP WARNING BOX COME ON WHEN **TROOP JUMP LTS** SWITCH IS SET TO **RED**?
YES
FAULT CORRECTED
NO
REPLACE LAMP DOES RED LIGHT ON TROOP WARNING BOX COME ON WHEN **TROOP JUMP LTS** SWITCH IS SET TO RED?
YES
FAULT CORRECTED
YES
CHECK FOR 28VDC BETWEEN TROOP LTS DIMMING RELAY 234K1 TERM 3(+) AND GROUND IS 28VDC PRESENT?
NO
REPLACE TROOP LTS DIMMING RELAY
NO
REMOVE FRONT PANEL ON TROOP WARNING BOX AT STA 120 CHECK FOR 28VDC BETWEEN RELAY 234K2 TERM B3(+) AND GROUND IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W567 2 22 BETWEEN RELAY AND RED LIGHT REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W567 11 22 W668 71 22 W697 111 22 OR W567 3 22 BETWEEN RED LIGHT ON TROOP WARNING BOX AT STA 575 AND RELAY 234K2 REPAIR OR REPLACE WIRES AS REQUIRED
YES
LOCATE OPEN IN WIRE W559 158 20 OR W559 162 20 BETWEEN RELAY 234K1 AND RED **TROOP JUMP LTS** LIGHT REPAIR OR REPLACE WIRES AS REQUIRED
NO
CHECK FOR 28VDC BETWEEN RELAY 234K2 TERM B2(+) AND GROUND IS 28VDC PRESENT?
YES
REPLACE JUMP LIGHT RELAY
NO
LOWER **TROOP WARN** AND **HEATING** PANEL CHECK FOR 28VDC BETWEEN **TROOP JUMP LTS** SWITCH 234S2 TERM 3(+) AND GROUND IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W567 15 20 W697 41 20 W645 125 22 OR W559 167 20 BETWEEN SWITCH 234S2 AND RELAY 234K2
NO
REPLACE **TROOP JUMP LTS** SWITCH

END OF TASK

9-16.9 RED LIGHTS ON FWD AND AFT TROOP WARNING BOXES DO NOT GO DIM

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

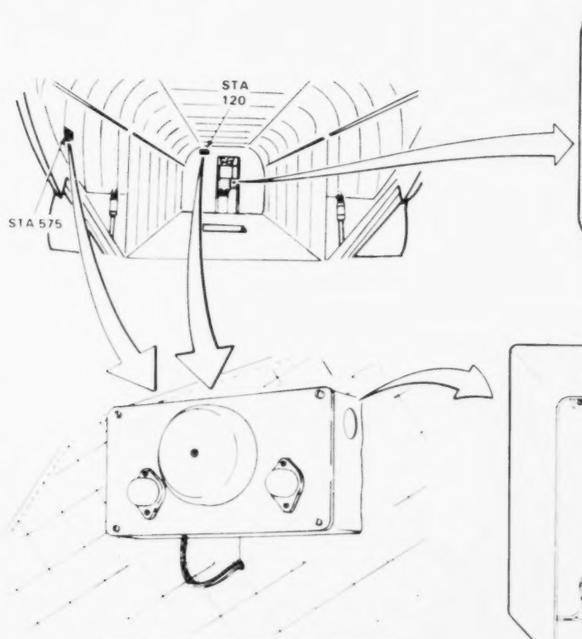
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F10 Aircraft Electrician

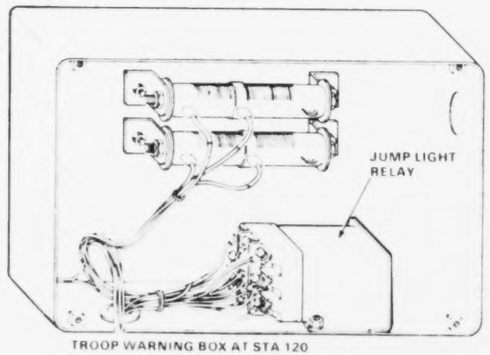
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off

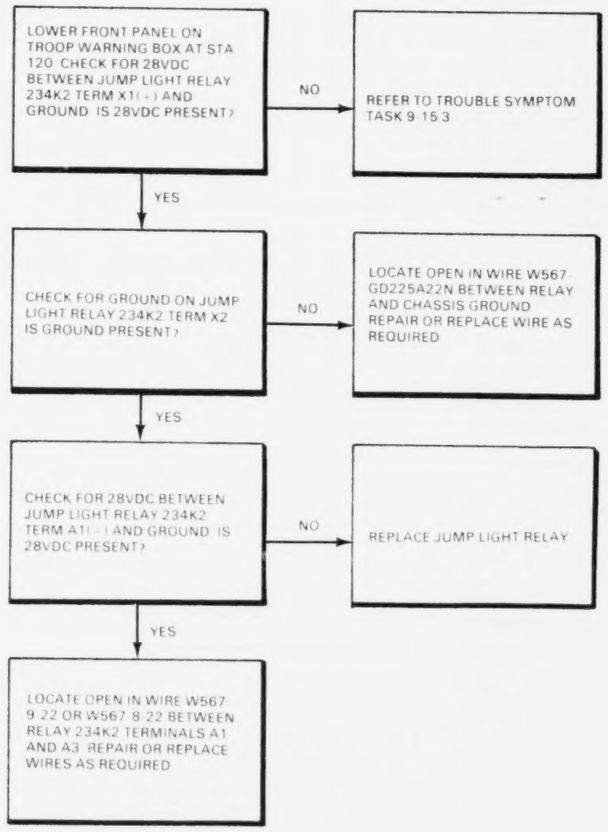


FORWARD TROOP WARNING BOX SHOWN
AFT TROOP WARNING BOX SIMILAR

PASSAGEWAY RIGHT SIDE
AT STA 98



TROOP WARNING BOX AT STA 120
SHOWN WITH FRONT COVER REMOVED


LOWER FRONT PANEL ON TROOP WARNING BOX AT STA 120. CHECK FOR 28VDC BETWEEN JUMP LIGHT RELAY 234K2 TERM X1 (-) AND GROUND. IS 28VDC PRESENT?
NO
REFER TO TROUBLE SYMPTOM TASK 9-15.3
YES
CHECK FOR GROUND ON JUMP LIGHT RELAY 234K2 TERM X2. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W567-GD225A22N BETWEEN RELAY AND CHASSIS GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR 28VDC BETWEEN JUMP LIGHT RELAY 234K2 TERM A1 (+) AND GROUND. IS 28VDC PRESENT?
NO
REPLACE JUMP LIGHT RELAY
YES
LOCATE OPEN IN WIRE W567-9-22 OR W567-8-22 BETWEEN RELAY 234K2 TERMINALS A1 AND A3. REPAIR OR REPLACE WIRES AS REQUIRED

END OF TASK

9-16.10 RED TROOP JUMP LTS LIGHT DOES NOT GO DIM

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

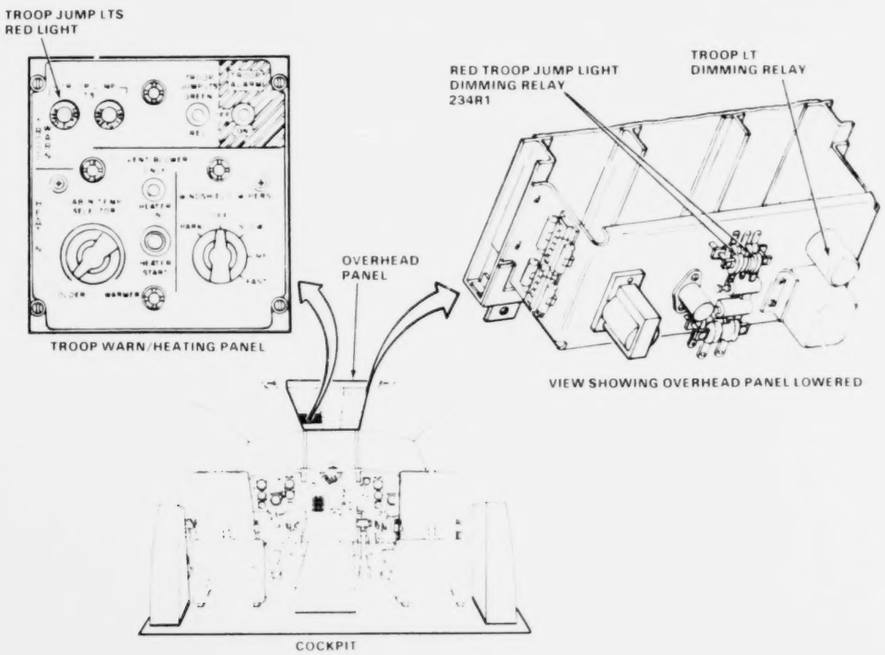
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

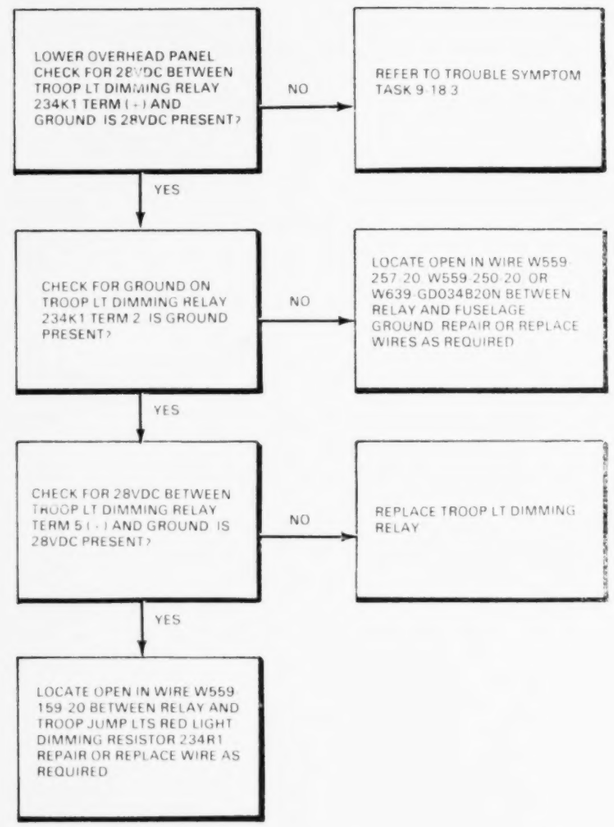
Materials:
None

Personnel Required:
68F10 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
Battery Connected
Electrical Power On
Hydraulic Power Off




LOWER OVERHEAD PANEL CHECK FOR 28VDC BETWEEN TROOP LT DIMMING RELAY 234K1 TERM (+) AND GROUND IS 28VDC PRESENT?
NO
REFER TO TROUBLE SYMPTOM TASK 9-18-3
YES
CHECK FOR GROUND ON TROOP LT DIMMING RELAY 234K1 TERM 2 IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W559-257-20 W559-250-20 OR W639-GD034B20N BETWEEN RELAY AND FUSELAGE GROUND REPAIR OR REPLACE WIRES AS REQUIRED
YES
CHECK FOR 28VDC BETWEEN TROOP LT DIMMING RELAY TERM 5 (+) AND GROUND IS 28VDC PRESENT?
NO
REPLACE TROOP LT DIMMING RELAY
YES
LOCATE OPEN IN WIRE W559-159-20 BETWEEN RELAY AND TROOP JUMP LTS RED LIGHT DIMMING RESISTOR 234R1 REPAIR OR REPLACE WIRE AS REQUIRED

45 x 54

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END OF TASK

9-16.11 GREEN LIGHT ON FWD OR AFT TROOP WARNING BOX OR TROOP JUMP LTS LIGHT DO NOT COME ON BRIGHT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

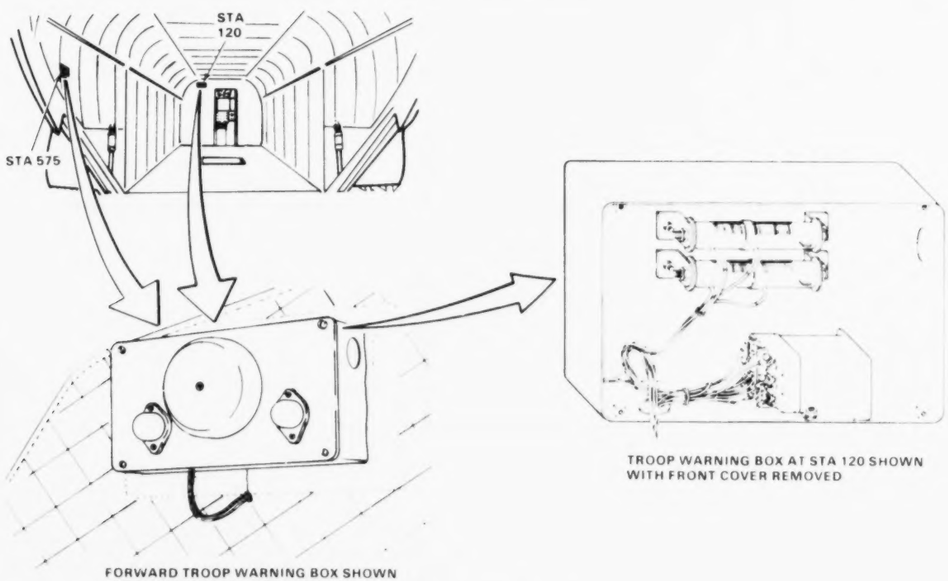
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

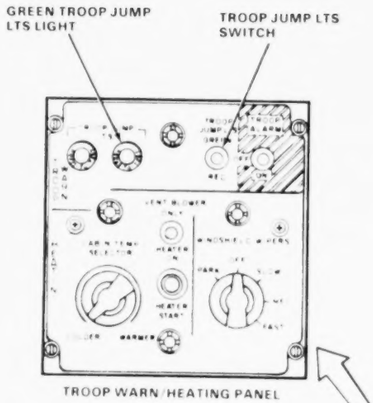
References:
TM 55-1520-240-23

Equipment Condition:
Battery Connected
Electrical Power On
Hydraulic Power Off

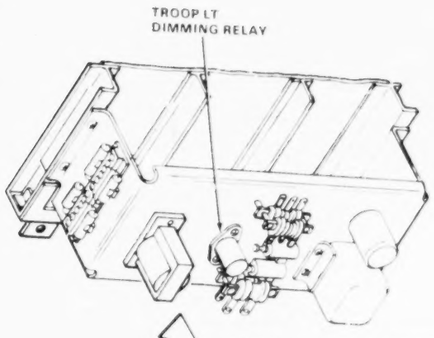


FORWARD TROOP WARNING BOX SHOWN
AFT TROOP WARNING BOX SIMILAR

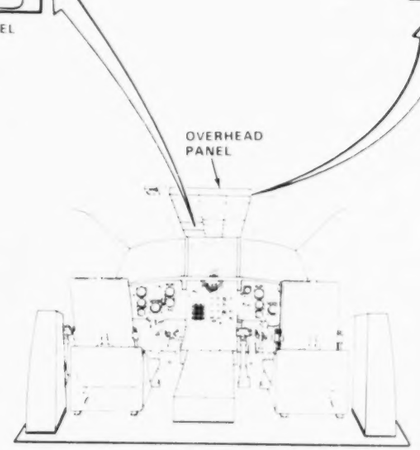
TROOP WARNING BOX AT STA 120 SHOWN
WITH FRONT COVER REMOVED



TROOP WARN/HEATING PANEL



VIEW SHOWING OVERHEAD PANEL LOWERED



COCKPIT

90 x 54

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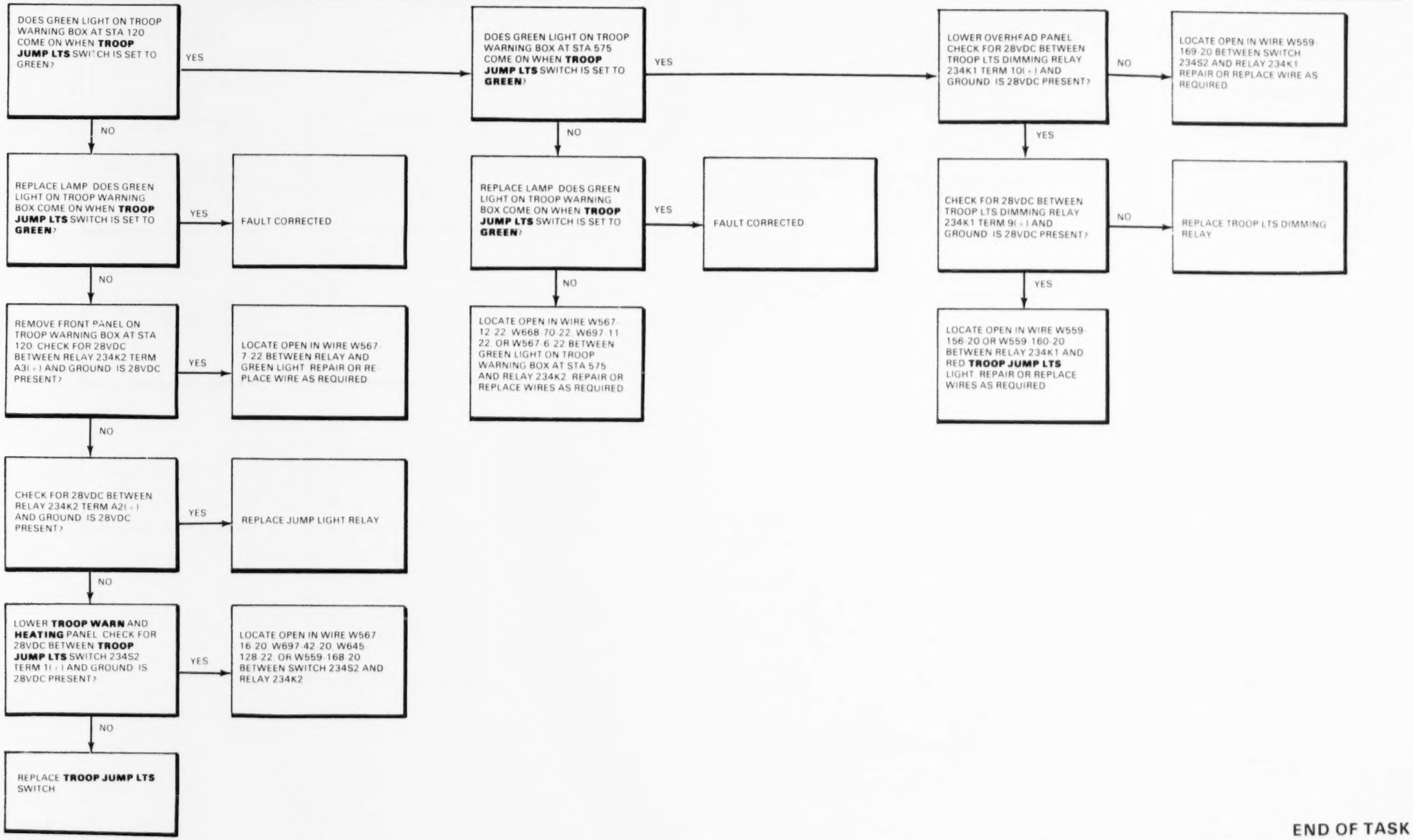
9-16.11 GREEN LIGHT ON FWD OR AFT TROOP WARNING BOX OR GREEN TROOP JUMP LTS LIGHT DO NOT COME ON BRIGHT (Continued)


DOES GREEN LIGHT ON TROOP WARNING BOX AT STA 120 COME ON WHEN **TROOP JUMP LTS** SWITCH IS SET TO GREEN?
YES
NO
REPLACE LAMP. DOES GREEN LIGHT ON TROOP WARNING BOX COME ON WHEN **TROOP JUMP LTS** SWITCH IS SET TO **GREEN**?
YES
FAULT CORRECTED
NO
REMOVE FRONT PANEL ON TROOP WARNING BOX AT STA 120. CHECK FOR 28VDC BETWEEN RELAY 234K2 TERM A3(+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W567-7-22 BETWEEN RELAY AND GREEN LIGHT. REPAIR OR REPLACE WIRE AS REQUIRED
NO
CHECK FOR 28VDC BETWEEN RELAY 234K2 TERM A2(+) AND GROUND. IS 28VDC PRESENT?
YES
REPLACE JUMP LIGHT RELAY
NO
LOWER **TROOP WARN** AND **HEATING** PANEL. CHECK FOR 28VDC BETWEEN **TROOP JUMP LTS** SWITCH 234S2 TERM 1(+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W567-16-20, W697-42-20, W645-128-22, OR W559-168-20 BETWEEN SWITCH 234S2 AND RELAY 234K2
NO
REPLACE **TROOP JUMP LTS** SWITCH
DOES GREEN LIGHT ON TROOP WARNING BOX AT STA 575 COME ON WHEN **TROOP JUMP LTS** SWITCH IS SET TO **GREEN**?
YES
NO
REPLACE LAMP. DOES GREEN LIGHT ON TROOP WARNING BOX COME ON WHEN **TROOP JUMP LTS** SWITCH IS SET TO **GREEN**?
YES
FAULT CORRECTED
NO
LOCATE OPEN IN WIRE W567-12-22, W668-70-22, W697-11-22, OR W567-6-22 BETWEEN GREEN LIGHT ON TROOP WARNING BOX AT STA 575 AND RELAY 234K2. REPAIR OR REPLACE WIRES AS REQUIRED
LOWER OVERHEAD PANEL CHECK FOR 28VDC BETWEEN TROOP LTS DIMMING RELAY 234K1 TERM 10(+) AND GROUND. IS 28VDC PRESENT?
NO
LOCATE OPEN IN WIRE W559-169-20 BETWEEN SWITCH 234S2 AND RELAY 234K1. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR 28VDC BETWEEN TROOP LTS DIMMING RELAY 234K1 TERM 9(+) AND GROUND. IS 28VDC PRESENT?
NO
REPLACE TROOP LTS DIMMING RELAY
YES
LOCATE OPEN IN WIRE W559-156-20 OR W559-160-20 BETWEEN RELAY 234K1 AND RED **TROOP JUMP LTS** LIGHT. REPAIR OR REPLACE WIRES AS REQUIRED

END OF TASK

9-16.12 GREEN LIGHTS ON FWD AND AFT TROOP WARNING BOXES DO NOT GO DIM

FAULT ISOLATION PROCEDURE
INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

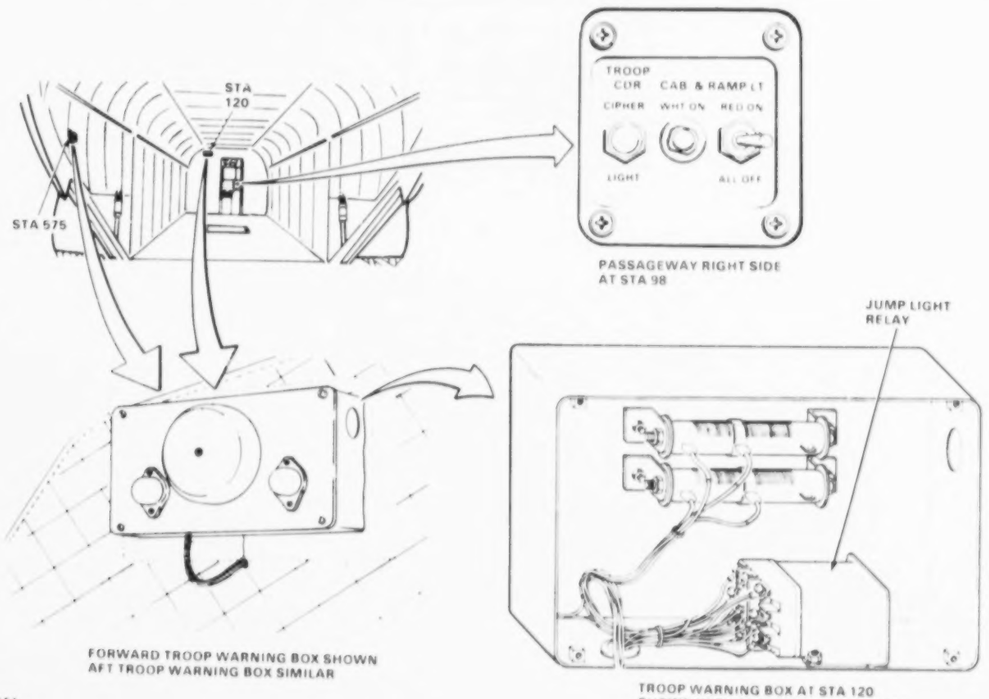
Materials:
None

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
Battery Connected
Electrical Power On
Hydraulic Power Off



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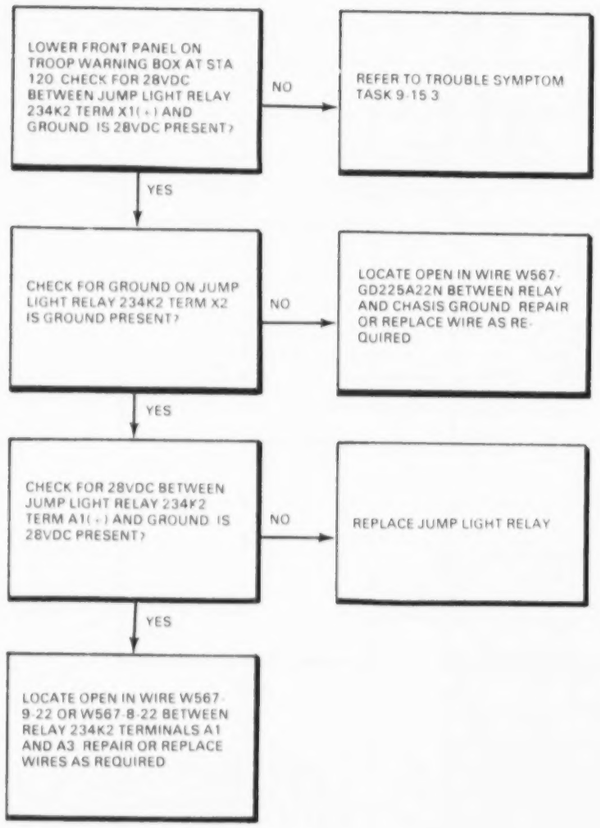

LOWER FRONT PANEL ON TROOP WARNING BOX AT STA 120. CHECK FOR 28VDC BETWEEN JUMP LIGHT RELAY 234K2 TERM X1(+) AND GROUND. IS 28VDC PRESENT?
NO
REFER TO TROUBLE SYMPTOM TASK 9-15.3
YES
CHECK FOR GROUND ON JUMP LIGHT RELAY 234K2 TERM X2. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W567-GD225A22N BETWEEN RELAY AND CHASIS GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR 28VDC BETWEEN JUMP LIGHT RELAY 234K2 TERM A1(+) AND GROUND. IS 28VDC PRESENT?
NO
REPLACE JUMP LIGHT RELAY
YES
LOCATE OPEN IN WIRE W567-9-22 OR W567-8-22 BETWEEN RELAY 234K2 TERMINALS A1 AND A3. REPAIR OR REPLACE WIRES AS REQUIRED

END OF TASK

9-16.13 GREEN TROOP JUMP LTS LIGHT DOES NOT GO DIM

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

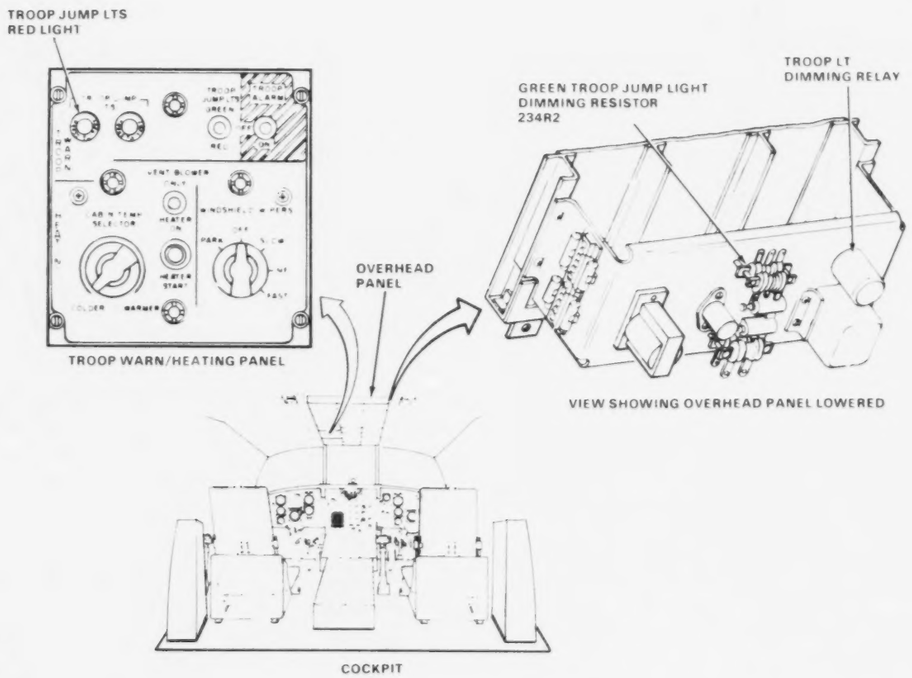
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials: None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
Battery Connected
Electrical Power On
Hydraulic Power Off



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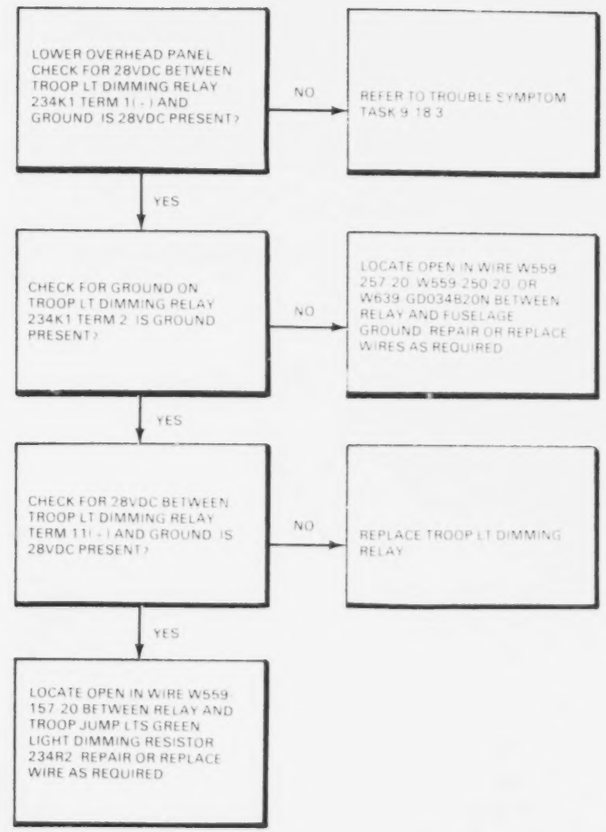

LOWER OVERHEAD PANEL CHECK FOR 28VDC BETWEEN TROOP LT DIMMING RELAY 234K1 TERM 1(-) AND GROUND. IS 28VDC PRESENT?
NO
REFER TO TROUBLE SYMPTOM TASK 9-18.3
YES
CHECK FOR GROUND ON TROOP LT DIMMING RELAY 234K1 TERM 2. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W559-257-20, W559-250-20, OR W639-GD034B20N BETWEEN RELAY AND FUSELAGE GROUND. REPAIR OR REPLACE WIRES AS REQUIRED
YES
CHECK FOR 28VDC BETWEEN TROOP LT DIMMING RELAY TERM 11(+) AND GROUND. IS 28VDC PRESENT?
NO
REPLACE TROOP LT DIMMING RELAY
YES
LOCATE OPEN IN WIRE W559-157-20 BETWEEN RELAY AND TROOP JUMP LTS GREEN LIGHT DIMMING RESISTOR 234R2. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

9-16.14 TROOP ALARM BELLS ON FWD OR AFT TROOP WARNING BOX DO NOT SOUND WHEN TROOP ALARM SWITCH IS SET TO ON

ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

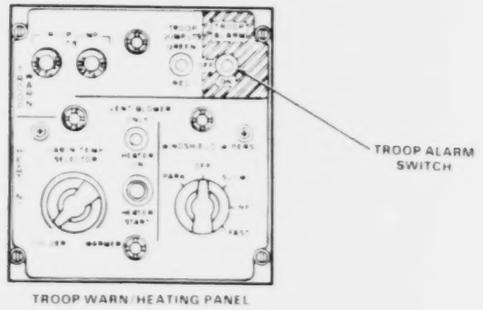
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
Battery Connected
Electrical Power On
Hydraulic Power Off



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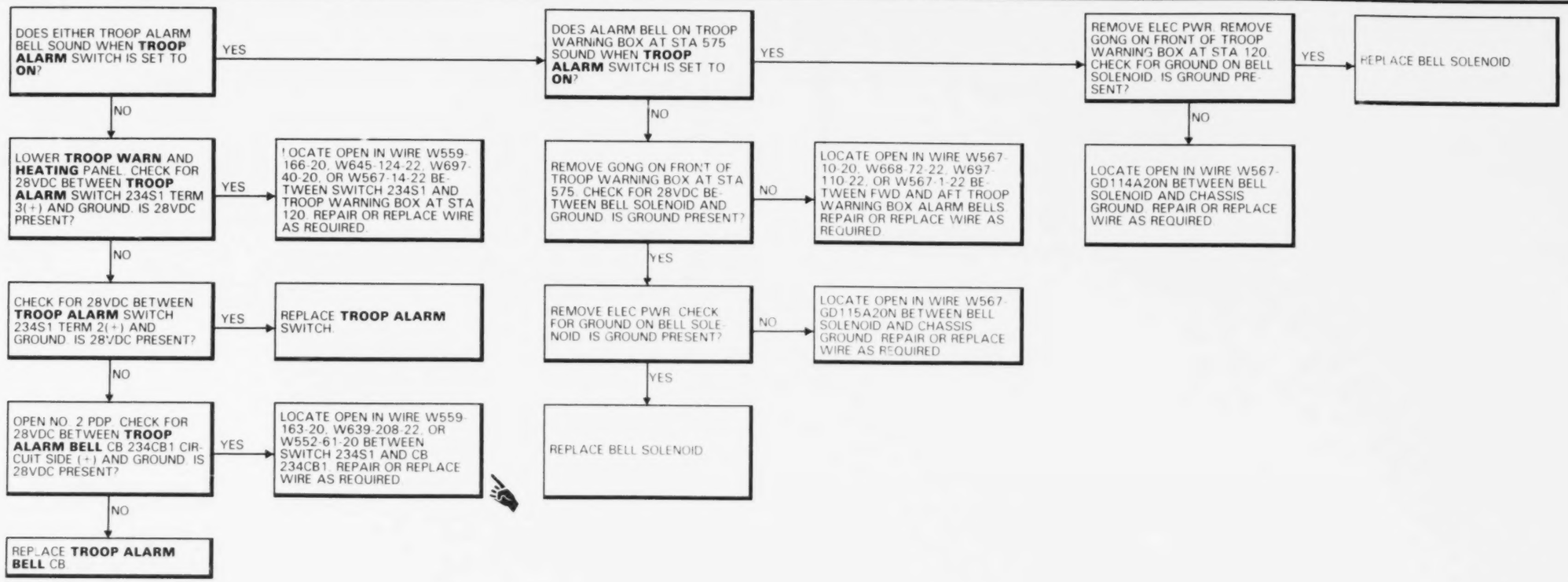
9-16.14 TROOP ALARM BELLS ON FWD OR AFT TROOP WARNING BOX DO NOT SOUND WHEN TROOP ALARM SWITCH IS SET TO ON (Continued)


DOES EITHER TROOP ALARM BELL SOUND WHEN **TROOP ALARM** SWITCH IS SET TO **ON**?
YES
NO
DOES ALARM BELL ON TROOP WARNING BOX AT STA 575 SOUND WHEN **TROOP ALARM** SWITCH IS SET TO **ON**?
YES
NO
REMOVE ELEC PWR. REMOVE GONG ON FRONT OF TROOP WARNING BOX AT STA 120. CHECK FOR GROUND ON BELL SOLENOID. IS GROUND PRESENT?
YES
REPLACE BELL SOLENOID
NO
LOCATE OPEN IN WIRE W567-GD114A20N BETWEEN BELL SOLENOID AND CHASSIS GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
LOWER **TROOP WARN** AND **HEATING** PANEL. CHECK FOR 28VDC BETWEEN **TROOP ALARM** SWITCH 234S1 TERM 3(+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W559-166-20, W645-124-22, W697-40-20, OR W567-14-22 BETWEEN SWITCH 234S1 AND TROOP WARNING BOX AT STA 120. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REMOVE GONG ON FRONT OF TROOP WARNING BOX AT STA 575. CHECK FOR 28VDC BETWEEN BELL SOLENOID AND GROUND. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W567-10-20, W668-72-22, W697-110-22, OR W567-1-22 BETWEEN FWD AND AFT TROOP WARNING BOX ALARM BELLS. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR 28VDC BETWEEN **TROOP ALARM** SWITCH 234S1 TERM 2(+) AND GROUND. IS 28VDC PRESENT?
YES
REPLACE **TROOP ALARM** SWITCH.
NO
REMOVE ELEC PWR. CHECK FOR GROUND ON BELL SOLENOID. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W567-GD115A20N BETWEEN BELL SOLENOID AND CHASSIS GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
OPEN NO. 2 PDP. CHECK FOR 28VDC BETWEEN **TROOP ALARM BELL** CB 234CB1 CIRCUIT SIDE (+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W559-163-20, W639-208-22, OR W552-61-20 BETWEEN SWITCH 234S1 AND CB 234CB1. REPAIR OR REPLACE WIRE AS REQUIRED.
REPLACE BELL SOLENOID
NO
REPLACE **TROOP ALARM BELL** CB

END OF TASK

9-16.15 RED TROOP JUMP LT LIGHT DOES NOT GO DIM

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

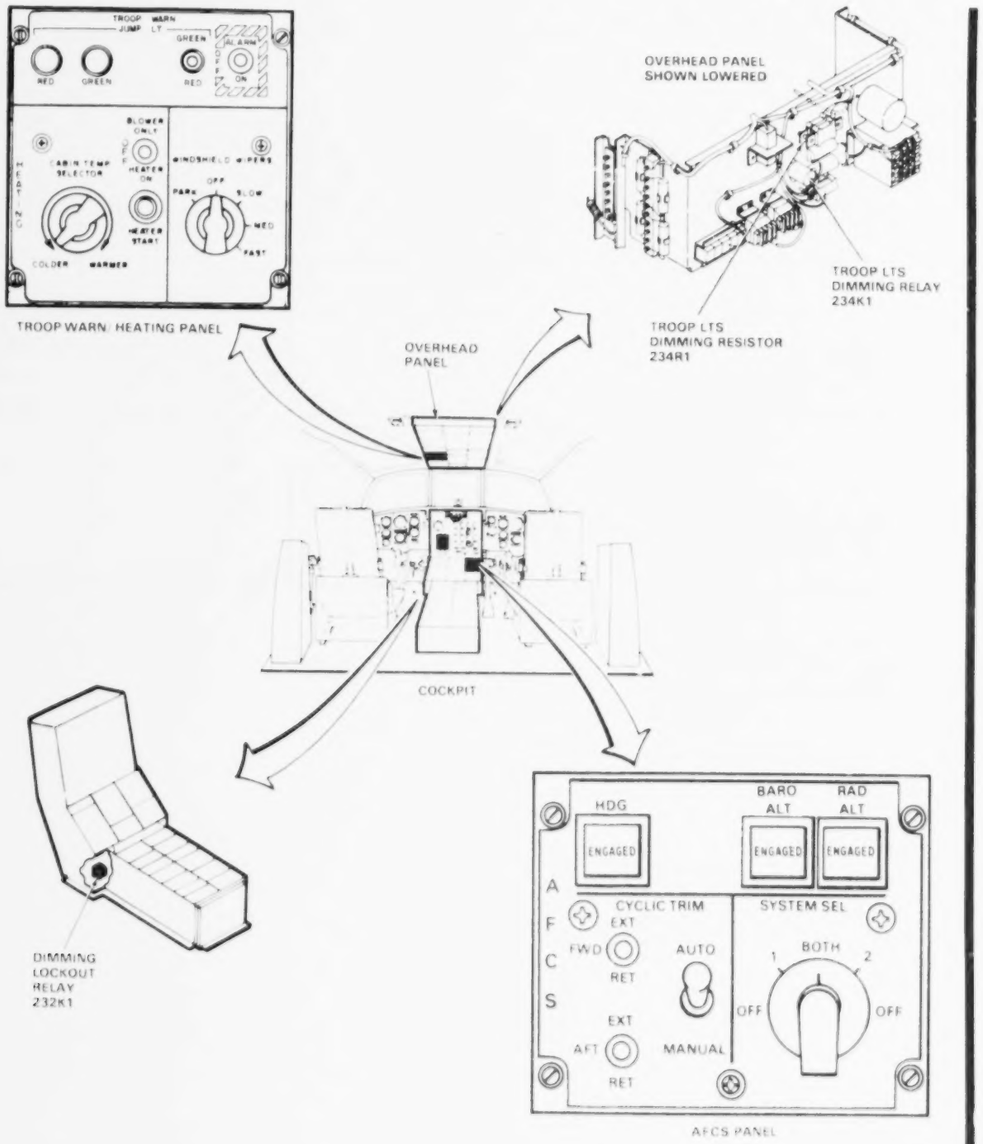
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off



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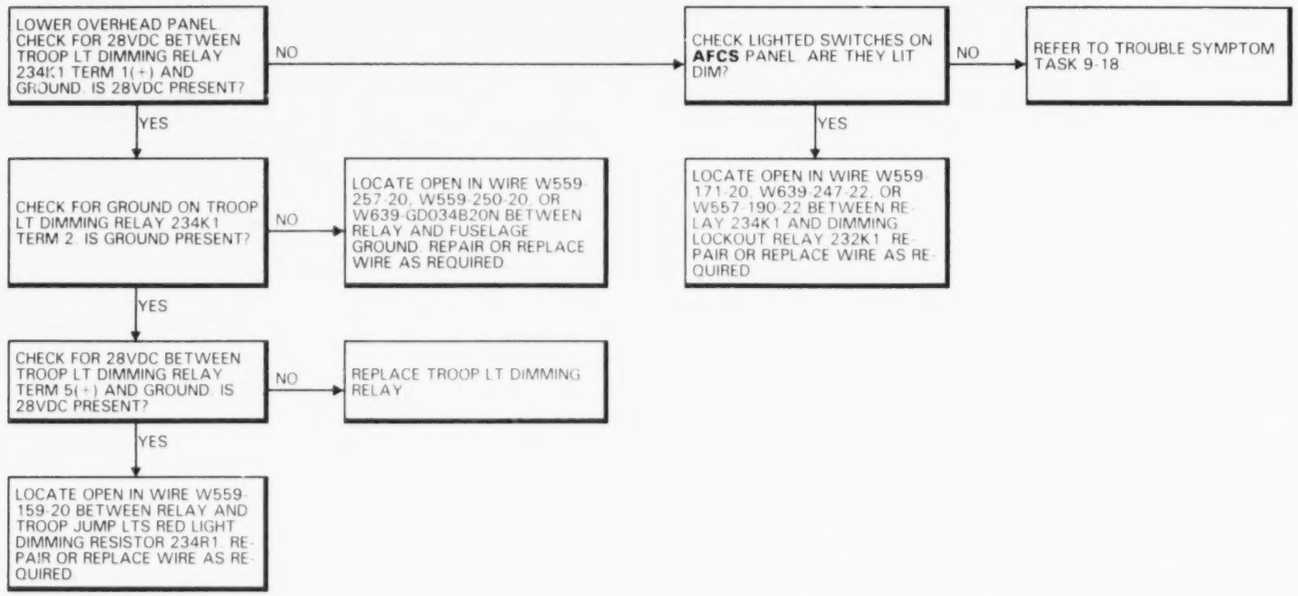
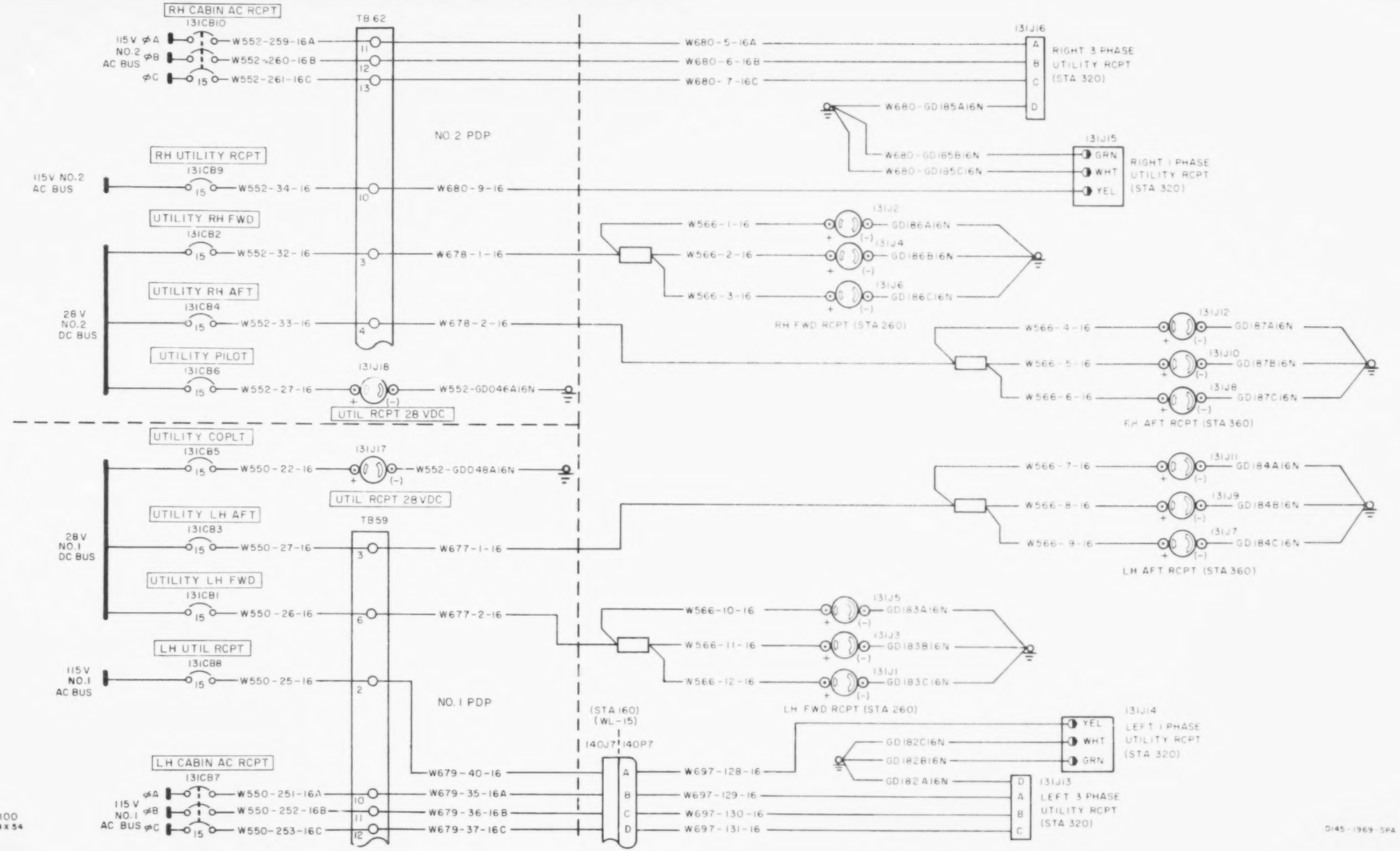

LOWER OVERHEAD PANEL CHECK FOR 28VDC BETWEEN TROOP LT DIMMING RELAY 234K1 TERM 1(+) AND GROUND. IS 28VDC PRESENT?
NO
CHECK LIGHTED SWITCHES ON **AFCS** PANEL. ARE THEY LIT DIM?
NO
REFER TO TROUBLE SYMPTOM TASK 9-18
YES
LOCATE OPEN IN WIRE W559-171-20, W639-247-22, OR W557-190-22 BETWEEN RELAY 234K1 AND DIMMING LOCKOUT RELAY 232K1. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR GROUND ON TROOP LT DIMMING RELAY 234K1 TERM 2. IS GROUND PRESENT?
NO
LOCATE OPEN IN WIRE W559-257-20, W559-250-20, OR W639-GD034B20N BETWEEN RELAY AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK FOR 28VDC BETWEEN TROOP LT DIMMING RELAY TERM 5(+) AND GROUND. IS 28VDC PRESENT?
NO
REPLACE TROOP LT DIMMING RELAY
YES
LOCATE OPEN IN WIRE W559-159-20 BETWEEN RELAY AND TROOP JUMP LTS RED LIGHT DIMMING RESISTOR 234R1. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

9-17 UTILITY RECEPTACLES

9-17 UTILITY RECEPTACLES

9-17.1 UTILITY RECEPTACLES WIRING DIAGRAM



9-17.2 UTILITY RECEPTACLES VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

Personnel Required:
68F10 Aircraft Electrician

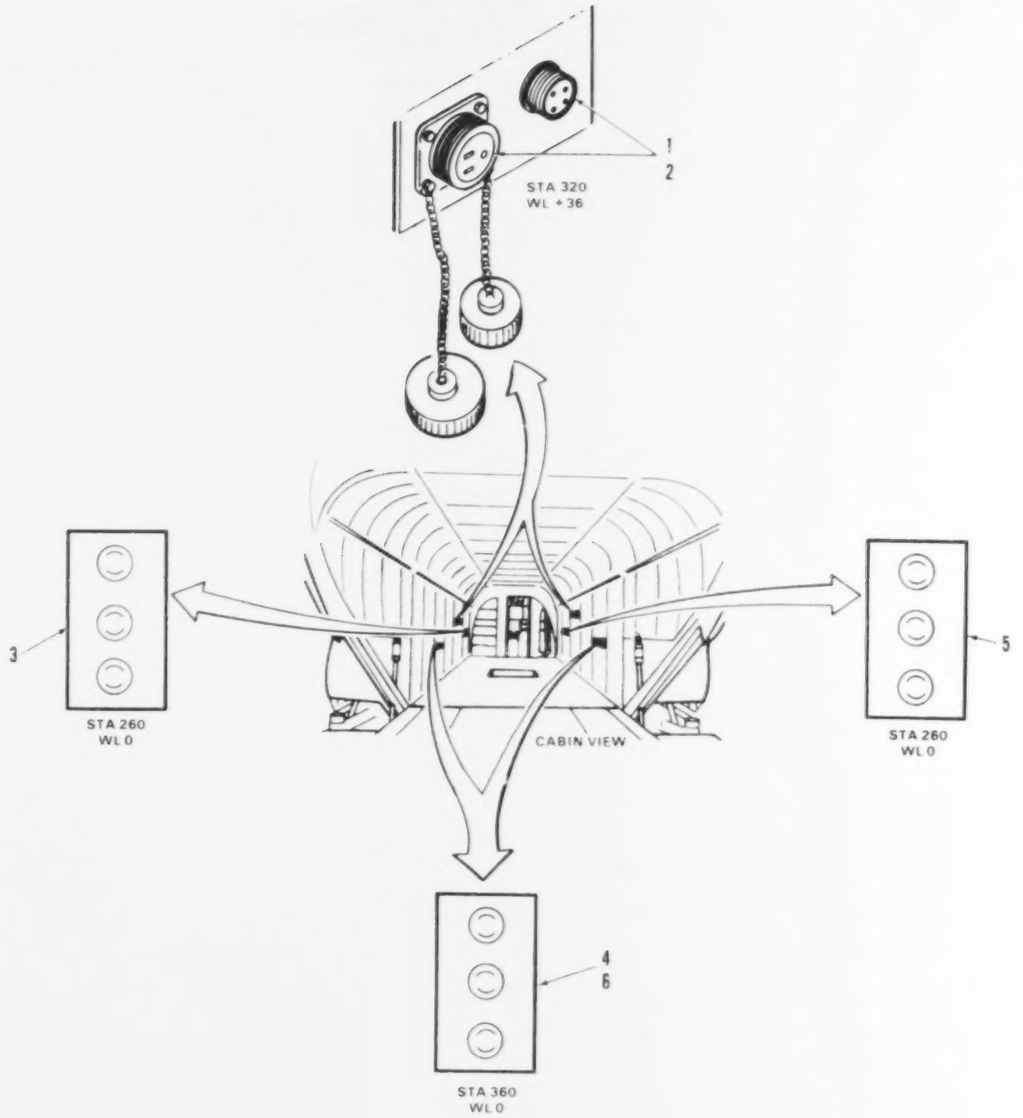
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Utility AC Receptacle Dust Covers Removed

TASK	RESULT
1 **Check ac utility receptacles (1 and 2).**	If either receptacle (1) or (2) is loose or broken, tighten or replace as required.
2 **Check dc utility receptacles (3, 4, 5 and 6).**	If any receptacle (3, 4, 5, or 6) is loose or broken, tighten or replace as required.

FOLLOW-ON MAINTENANCE

None



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END OF TASK

9-17.3 UTILITY RECEPTACLES OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

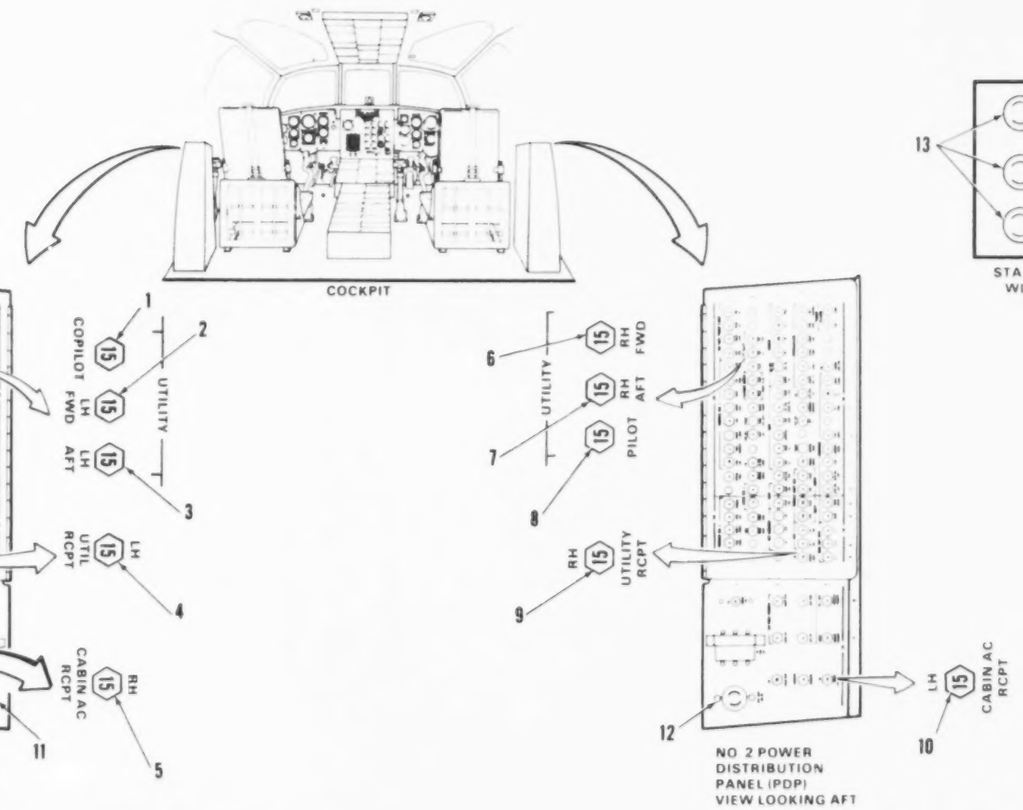
Tools:
Multimeter

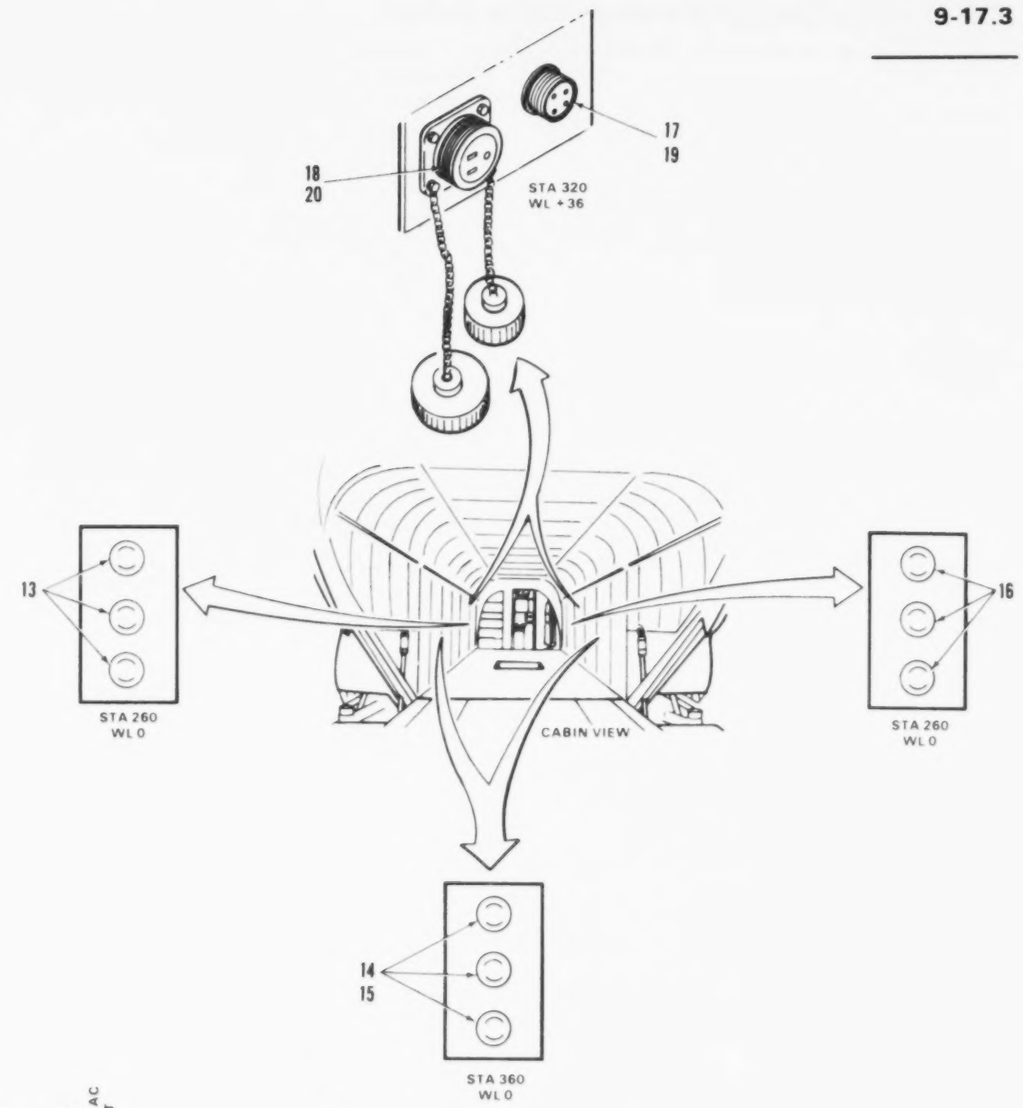
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Utility Receptacles Visual Check Performed (Task 9-17.2)





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9-17.3 UTILITY RECEPTACLES OPERATIONAL CHECK (Continued)

TASK	RESULT
1. Check that COPILOT LH FWD and LH AFT UTILITY circuit breakers (1, 2 and 3) are closed.	If any circuit breaker (1, 2, or 3) is open, close it. If any circuit breaker opens again, go to task 9-17.4.
2. Check that LH UTIL RCPT circuit breaker (4) is closed.	If circuit breaker (4) is open, close it. If it opens again, go to task 9-17.4.
3. Check that LH CABIN AC RCPT circuit breaker (5) is closed.	If circuit breaker (5) is open, close it. If it opens again, go to task 9-17.5.
4. Check that RH FWD, RH AFT, AND PILOT utility circuit breakers (6, 7 and 8) are closed.	If any circuit breaker (6, 7, and 8) is open, close it. If any circuit breaker opens again, go to task 9-17.4.
5. Check that RH UTIL circuit breaker (9) is closed.	If circuit breaker (9) is open, close it. If it opens again, go to task 9-17.4.
6. Check that RH CABIN AC RCPT circuit breaker (10) is closed.	If circuit breaker (10) is open, close it. If it opens again, go to task 9-17.5.
7. Connect a multimeter, set to measure 28VDC, between small socket (+) and large socket of UTIL RCPT 28VDC receptacle (11).	Multimeter shall read 28VDC. If not, go to task 9-17.6.
8. Connect a multimeter, set to read 28VDC, between small socket (+) and large socket of UTIL RCPT 28VDC receptacle (12).	Multimeter shall read 28VDC. If not, go to task 9-17.6.
9. Connect a multimeter, set to read 28VDC, between small socket (+) and large socket of six cabin left side receptacles (13 and 14).	Multimeter shall read 28VDC. If not, go to task 9-17.6.
10. Connect a multimeter, set to read 28VDC, between small socket (+) and large socket in six cabin right side receptacles (15 and 16).	Multimeter shall read 28VDC. If not, go to task 9-17.7.
11. Connect a multimeter, set to read 115VAC, between pin D and pins A, B, and C in cabin left side 3 phase receptacle (17).	Multimeter shall read 115VAC on all 3 pins. If not, go to task 9-17.8.
12. Connect a multimeter, set to read 115VAC, between narrow socket and wide socket and between narrow socket and ground socket in receptacle (18).	Multimeter shall read 115VAC on both readings. If not, go to task 9-17.8.
13. Connect a multimeter, set to read 115VAC, between pin D and pins A, B, and C on cabin right side 3 phase receptacle (19).	Multimeter shall read 115VAC at all 3 pins. If not, go to task 9-17.9.
14. Connect a multimeter, set to read 115VAC, between narrow socket and wide socket and between narrow socket and ground socket on receptacle (20).	Multimeter shall read 115VAC on both readings. If not go to task 9-17.9.

FOLLOW-ON MAINTENANCE:

TM 55-1520-240-23:
- Battery Disconnected
- Electrical Power Off
- Hydraulic Power Off
- Utility Receptacles Dust Covers Installed

END OF TASK

9-17.4 UTILITY RECEPTACLE CIRCUIT BREAKERS WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

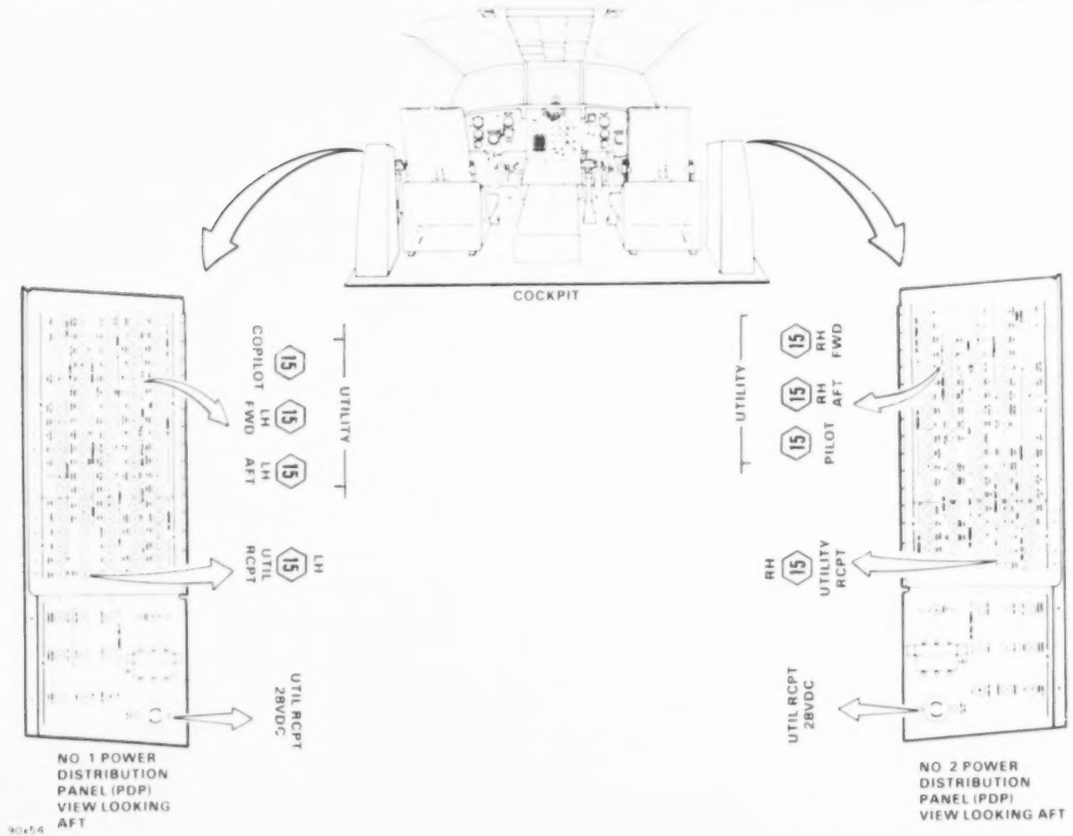
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

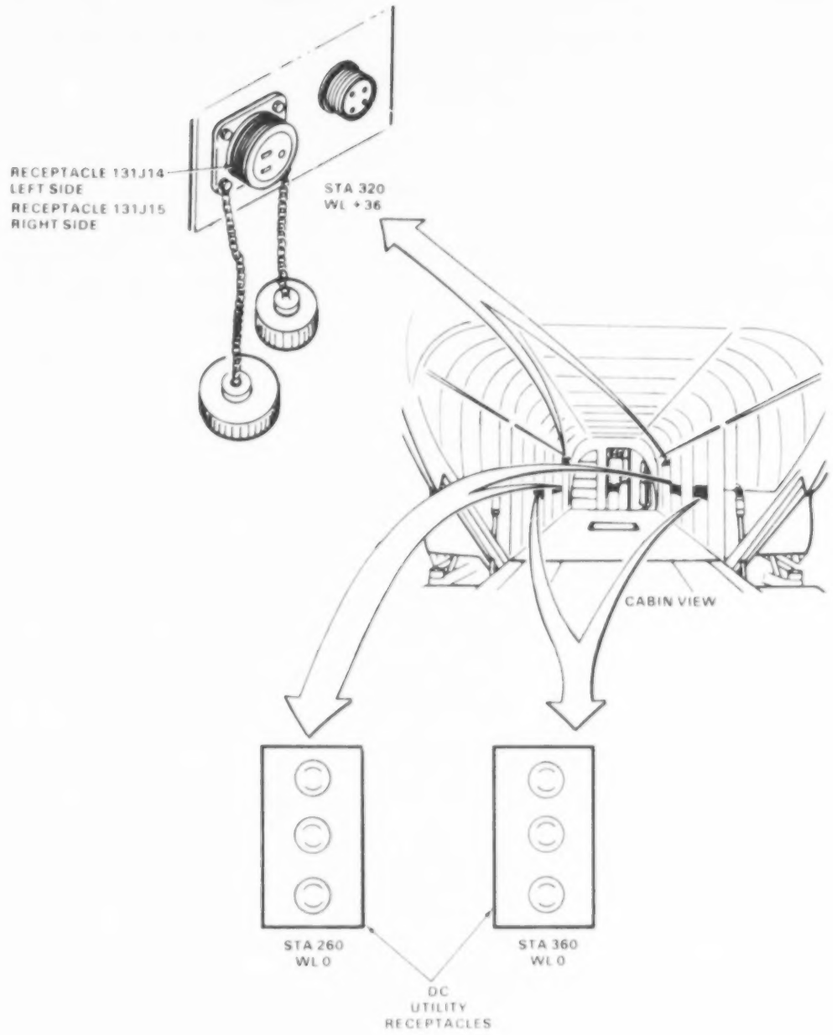
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off





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9-17.4 UTILITY RECEPTACLE CIRCUIT BREAKER WILL NOT STAY CLOSED (Continued)

RH FWD UTILITY CIRCUIT BREAKER WILL NOT STAY CLOSED

OPEN NO. 2 PDP. DISCONNECT WIRES FROM TERM 3 OF TB62. CHECK FOR GROUND ON WIRE W552-32-16. IS GROUND PRESENT ON WIRE W552-32-16?

YES → LOCATE GROUND FAULT ON WIRE W552-32-16 BETWEEN TB62 AND **RH FWD UTILITY** CB 131CB2. REPAIR OR REPLACE WIRE AS REQUIRED.

NO → LOCATE GROUND FAULT ON WIRE W678-1-16, W566-1-16, W566-2-16, OR W566-3-16 BETWEEN TB62 AND RH STA 260 RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED.

LH FWD UTILITY CIRCUIT BREAKER WILL NOT STAY CLOSED

OPEN NO. 1 PDP. DISCONNECT WIRE FROM TERM 6 OF TB59. CHECK FOR GROUND ON WIRE W550-26-16. IS GROUND PRESENT ON WIRE W550-26-16?

YES → LOCATE GROUND FAULT ON WIRE W550-26-16 BETWEEN TERM 6 OF TB59 AND **LH FWD UTILITY** CB 131CB1. REPAIR OR REPLACE WIRE AS REQUIRED.

NO → LOCATE GROUND FAULT ON WIRE W677-2-16, W566-10-16, W566-11-16, OR W566-12-16 BETWEEN TERM 6 ON TB59 AND LH FWD STA 260 RECEPTACLE. REPAIR OR REPLACE WIRES AS REQUIRED.

RH UTILITY RCPT CIRCUIT BREAKER WILL NOT STAY CLOSED

OPEN NO. 2 PDP. DISCONNECT WIRES FROM TERM 10 OF TB62. CHECK FOR GROUND ON WIRE W552-34-16. IS GROUND PRESENT ON THIS WIRE?

YES → LOCATE GROUND FAULT ON WIRE W552-34-16 BETWEEN TB62 AND **RH UTILITY RCPT** CB 131CB9. REPAIR OR REPLACE WIRE AS REQUIRED.

NO → LOCATE GROUND FAULT ON WIRE W680-9-16 BETWEEN TB62 AND AC SINGLE PHASE RECEPTACLE 131J15 AT STA 320 RIGHT. REPAIR OR REPLACE WIRE AS REQUIRED.

RH AFT UTILITY CIRCUIT BREAKER WILL NOT STAY CLOSED

OPEN NO. 2 PDP. DISCONNECT WIRES FROM TERM 4 OF TB62. CHECK FOR GROUND ON WIRE W552-33-16. IS GROUND PRESENT ON WIRE W552-33-16?

YES → LOCATE GROUND FAULT ON WIRE W552-33-16 BETWEEN TB62 AND **RH AFT UTILITY** CB 131CB4. REPAIR OR REPLACE WIRE AS REQUIRED.

NO → LOCATE GROUND FAULT ON WIRE W678-2-16, W566-4-16, W566-5-16, OR W566-6-16 BETWEEN TB62 AND RH STA 360 RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED.

LH AFT CIRCUIT BREAKER WILL NOT STAY CLOSED

OPEN NO. 1 PDP FROM TERM 3 OF TB59. CHECK FOR GROUND ON WIRE W550-27-16. IS GROUND PRESENT ON WIRE W550-27-16?

YES → LOCATE GROUND FAULT ON WIRE W550-27-16 BETWEEN TERM 3 OF TB59 AND **LH AFT UTILITY** CB 131CB3. REPAIR OR REPLACE WIRE AS REQUIRED.

NO → LOCATE GROUND FAULT ON WIRE W677-1-16, W566-7-16, W566-8-16, OR W566-9-16 BETWEEN TERM 3 OF TB59 AND LH STA 360 RECEPTACLES. REPAIR OR REPLACE WIRE AS REQUIRED.

LH UTIL RCPT CIRCUIT BREAKER WILL NOT STAY CLOSED

OPEN NO. 1 PDP. DISCONNECT WIRES FROM TERM 2 OF TB59. CHECK FOR GROUND ON WIRE W550-25-16. IS GROUND PRESENT ON THIS WIRE?

YES → LOCATE GROUND FAULT ON WIRE W550-25-16 BETWEEN TB59 AND **LH UTIL RCPT** CB 131CB8. REPAIR OR REPLACE WIRE AS REQUIRED.

NO → LOCATE GROUND FAULT ON WIRE W679-40-16 OR W697-128-16 BETWEEN TB59 AND AC SINGLE PHASE RECEPTACLE 131J14 AT STA 320 LEFT. REPAIR OR REPLACE WIRE AS REQUIRED.

PILOT UTILITY CIRCUIT BREAKER WILL NOT STAY CLOSED

OPEN NO. 2 PDP. DISCONNECT WIRE W552-27-16 FROM **PILOT UTILITY RCPT** RECEPTACLE 131J18. CHECK FOR GROUND ON WIRE W552-27-16. IS GROUND PRESENT ON WIRE?

YES → LOCATE GROUND FAULT ON WIRE W552-27-16 BETWEEN RECEPTACLE 131J18 AND **PILOT UTILITY RCPT** CB 131CB6. REPAIR OR REPLACE WIRE AS REQUIRED.

NO → REPLACE **UTILITY RCPT 28VDC** 131J18.

COPLT UTILITY CIRCUIT BREAKER WILL NOT STAY CLOSED

OPEN NO. 1 PDP. DISCONNECT WIRE W550-22-16 FROM **COPLT UTILITY RCPT** RECEPTACLE 131J17. CHECK FOR GROUND ON WIRE W550-22-16. IS GROUND PRESENT ON THIS WIRE?

YES → LOCATE GROUND FAULT ON WIRE W550-22-16 BETWEEN RECEPTACLE 131J17 AND **COPLT UTILITY RCPT** CB 131CB5. REPAIR OR REPLACE WIRE AS REQUIRED.

NO → REPLACE **UTILITY RCPT 28VDC** 131J17.

END OF TASK

9-17.5 CABIN AC RECEPTACLE CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

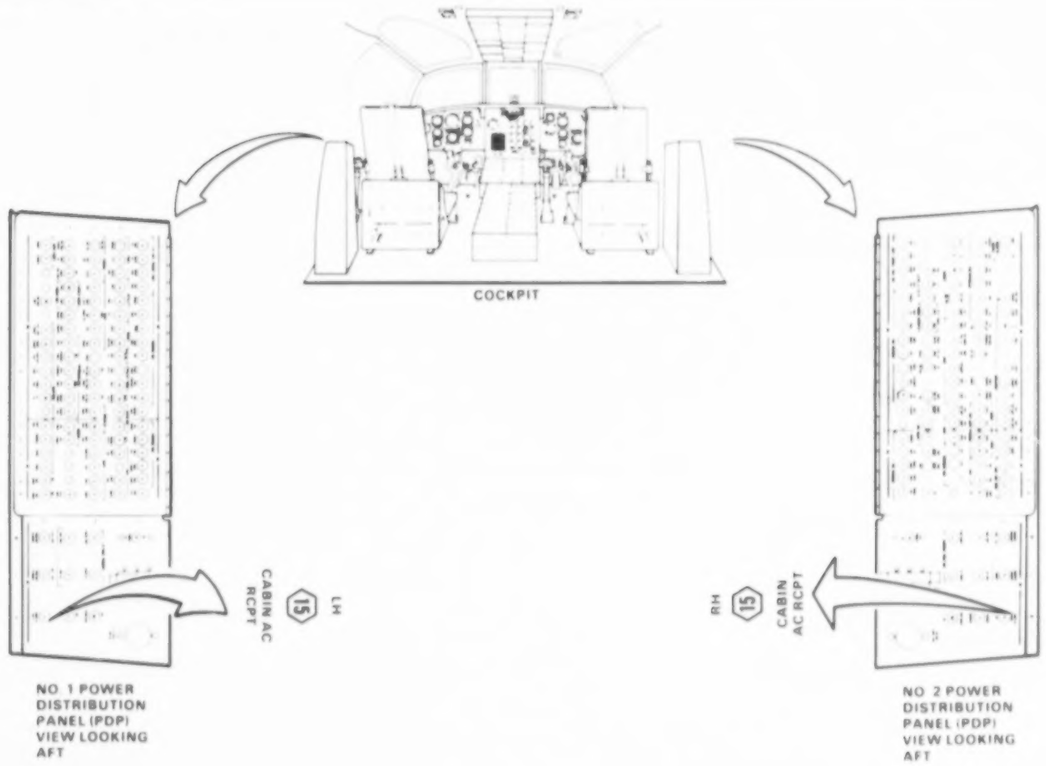
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

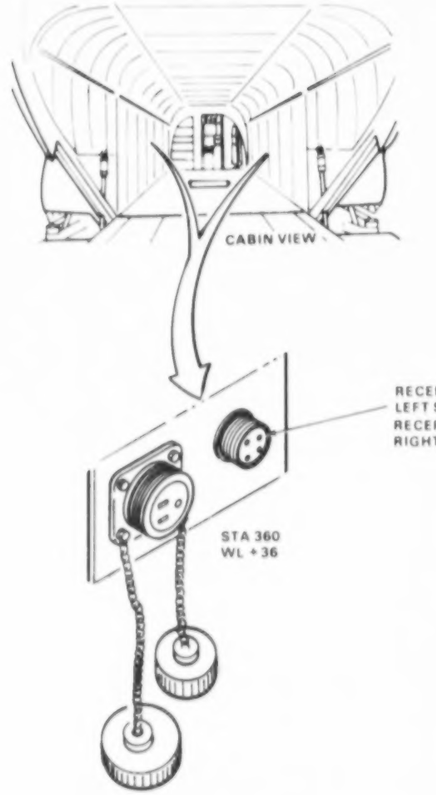
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off





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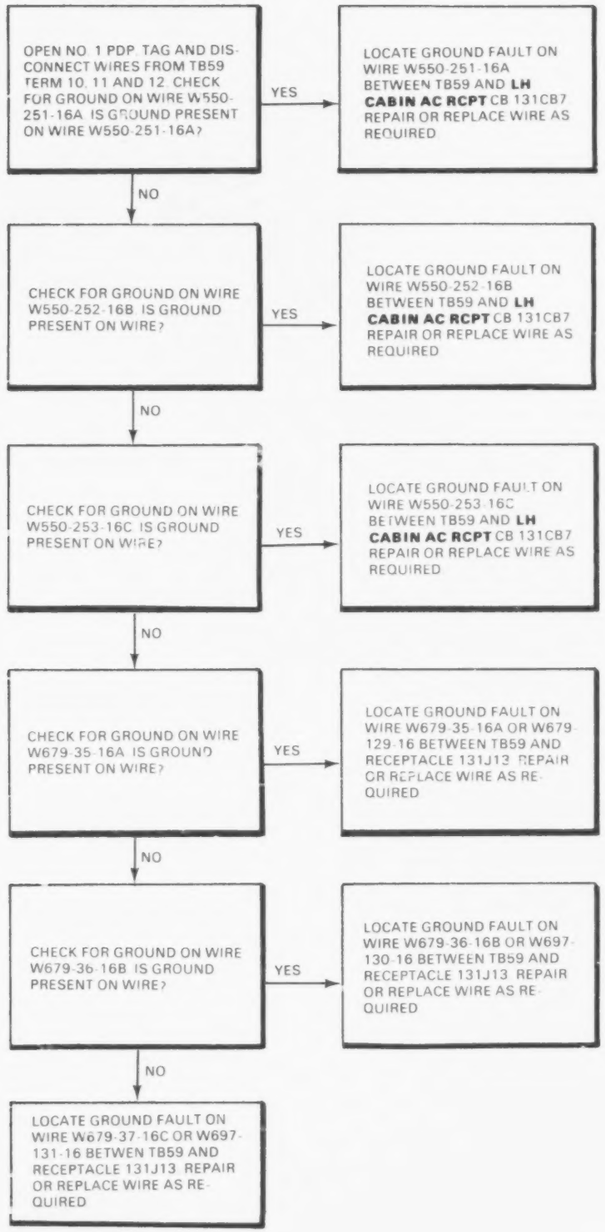
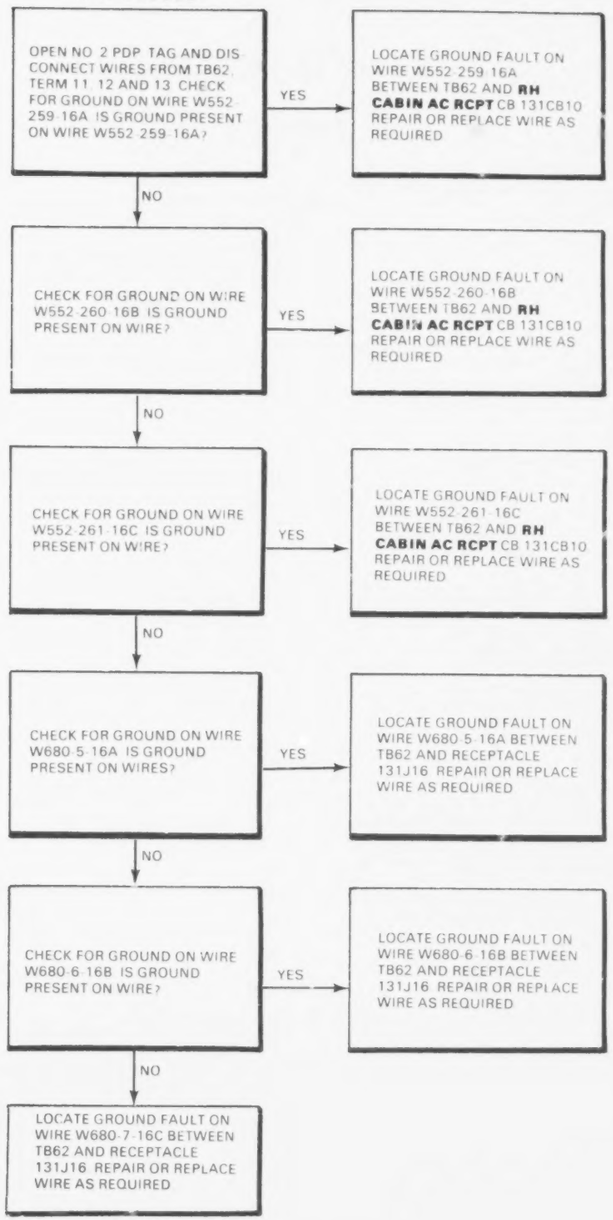
9-17.5 CABIN AC RECEPTACLE CIRCUIT BREAKER WILL NOT STAY CLOSED (Continued)

LH CABIN AC RCPT CIRCUIT BREAKER WILL NOT STAY CLOSED


OPEN NO. 1 PDP, TAG AND DISCONNECT WIRES FROM TB59 TERM 10, 11 AND 12. CHECK FOR GROUND ON WIRE W550-251-16A. IS GROUND PRESENT ON WIRE W550-251-16A?
YES
LOCATE GROUND FAULT ON WIRE W550-251-16A BETWEEN TB59 AND LH CABIN AC RCPT CB 131CB7. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR GROUND ON WIRE W550-252-16B. IS GROUND PRESENT ON WIRE?
YES
LOCATE GROUND FAULT ON WIRE W550-252-16B BETWEEN TB59 AND LH CABIN AC RCPT CB 131CB7. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR GROUND ON WIRE W550-253-16C. IS GROUND PRESENT ON WIRE?
YES
LOCATE GROUND FAULT ON WIRE W550-253-16C BETWEEN TB59 AND LH CABIN AC RCPT CB 131CB7. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR GROUND ON WIRE W679-35-16A. IS GROUND PRESENT ON WIRE?
YES
LOCATE GROUND FAULT ON WIRE W679-35-16A OR W679-129-16 BETWEEN TB59 AND RECEPTACLE 131J13. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR GROUND ON WIRE W679-36-16B. IS GROUND PRESENT ON WIRE?
YES
LOCATE GROUND FAULT ON WIRE W679-36-16B OR W697-130-16 BETWEEN TB59 AND RECEPTACLE 131J13. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE GROUND FAULT ON WIRE W679-37-16C OR W697-131-16 BETWEN TB59 AND RECEPTACLE 131J13. REPAIR OR REPLACE WIRE AS REQUIRED.

RH CABIN AC RCPT CIRCUIT BREAKER WILL NOT STAY CLOSED


OPEN NO. 2 PDP, TAG AND DISCONNECT WIRES FROM TB62, TERM 11, 12 AND 13. CHECK FOR GROUND ON WIRE W552-259-16A. IS GROUND PRESENT ON WIRE W552-259-16A?
YES
LOCATE GROUND FAULT ON WIRE W552-259-16A BETWEEN TB62 AND RH CABIN AC RCPT CB 131CB10. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR GROUND ON WIRE W552-260-16B. IS GROUND PRESENT ON WIRE?
YES
LOCATE GROUND FAULT ON WIRE W552-260-16B BETWEEN TB62 AND RH CABIN AC RCPT CB 131CB10. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR GROUND ON WIRE W552-261-16C. IS GROUND PRESENT ON WIRE?
YES
LOCATE GROUND FAULT ON WIRE W552-261-16C BETWEEN TB62 AND RH CABIN AC RCPT CB 131CB10. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR GROUND ON WIRE W680-5-16A. IS GROUND PRESENT ON WIRES?
YES
LOCATE GROUND FAULT ON WIRE W680-5-16A BETWEEN TB62 AND RECEPTACLE 131J16. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
CHECK FOR GROUND ON WIRE W680-6-16B. IS GROUND PRESENT ON WIRE?
YES
LOCATE GROUND FAULT ON WIRE W680-6-16B BETWEEN TB62 AND RECEPTACLE 131J16. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
LOCATE GROUND FAULT ON WIRE W680-7-16C BETWEEN TB62 AND RECEPTACLE 131J16. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-17.6 NO ELECTRICAL POWER AT UTILITY DC RECEPTACLES ON LEFT SIDE OF AIRCRAFT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

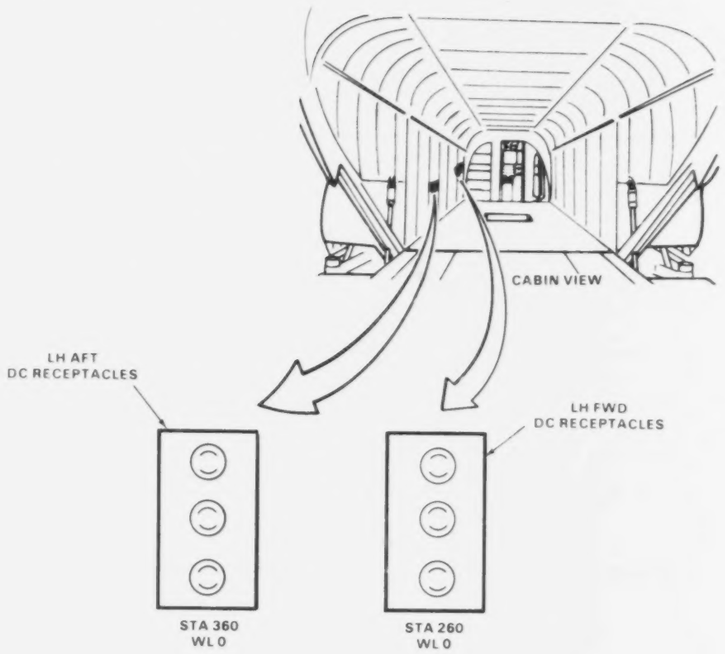
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

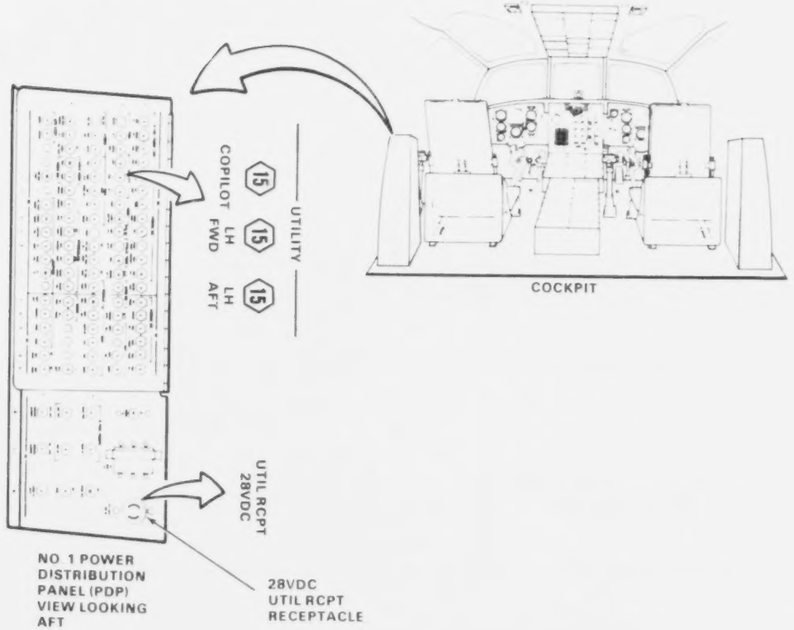
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Connected
Electrical Power On
Hydraulic Power Off





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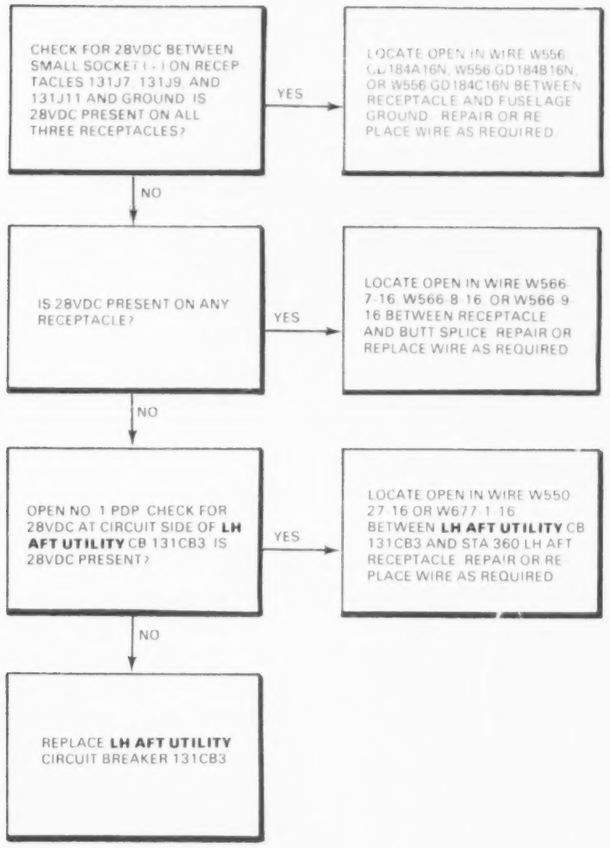
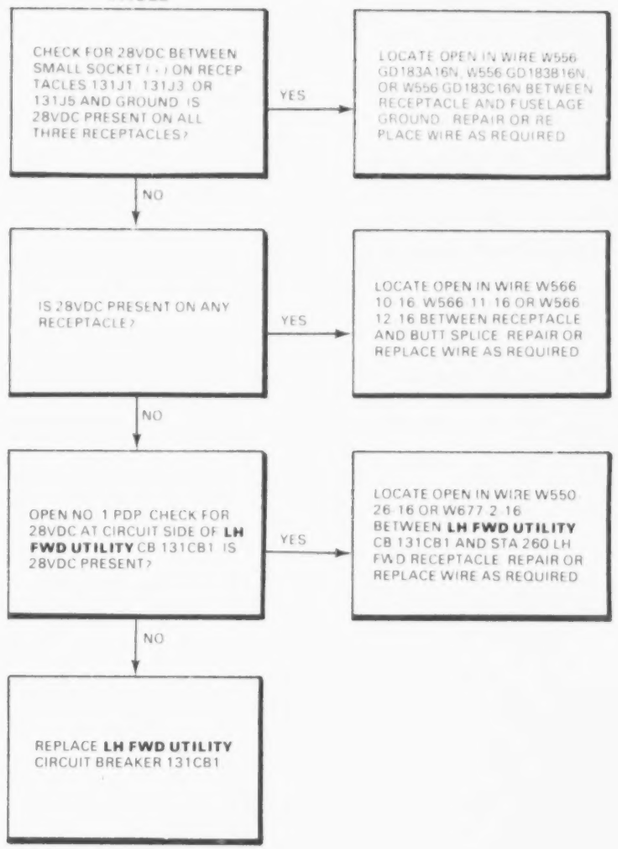
9-17.6 NO ELECTRICAL POWER AT UTILITY DC RECEPTACLES ON LEFT SIDE OF AIRCRAFT (Continued)

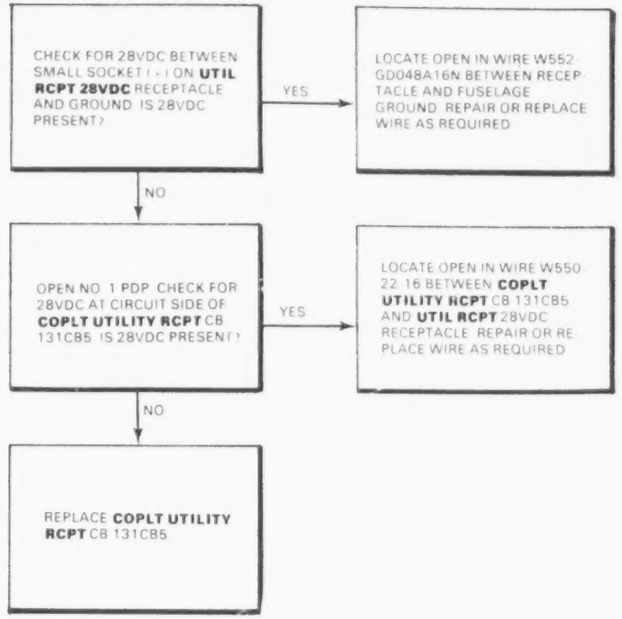
NO ELECTRICAL POWER AT LH AFT DC RECEPTACLES


CHECK FOR 28VDC BETWEEN SMALL SOCKET (+) ON RECEPTACLES 131J7, 131J9, AND 131J11 AND GROUND. IS 28VDC PRESENT ON ALL THREE RECEPTACLES?
YES
LOCATE OPEN IN WIRE W556 GD184A16N, W556 GD184B16N, OR W556 GD184C16N BETWEEN RECEPTACLE AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
IS 28VDC PRESENT ON ANY RECEPTACLE?
YES
LOCATE OPEN IN WIRE W566 7-16, W566 8-16, OR W566 9-16 BETWEEN RECEPTACLE AND BUTT SPLICE. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
OPEN NO. 1 PDP. CHECK FOR 28VDC AT CIRCUIT SIDE OF **LH AFT UTILITY** CB 131CB3. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W550 27-16 OR W677-1-16 BETWEEN **LH AFT UTILITY** CB 131CB3 AND STA 360 LH AFT RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE **LH AFT UTILITY** CIRCUIT BREAKER 131CB3

NO ELECTRICAL POWER AT LH FWD DC RECEPTACLE


CHECK FOR 28VDC BETWEEN SMALL SOCKET (+) ON RECEPTACLES 131J1, 131J3, OR 131J5 AND GROUND. IS 28VDC PRESENT ON ALL THREE RECEPTACLES?
YES
LOCATE OPEN IN WIRE W556 GD183A16N, W556 GD183B16N, OR W556 GD183C16N BETWEEN RECEPTACLE AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
IS 28VDC PRESENT ON ANY RECEPTACLE?
YES
LOCATE OPEN IN WIRE W566 10-16, W566 11-16 OR W566 12-16 BETWEEN RECEPTACLE AND BUTT SPLICE. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
OPEN NO. 1 PDP. CHECK FOR 28VDC AT CIRCUIT SIDE OF **LH FWD UTILITY** CB 131CB1. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W550 26-16 OR W677-2-16 BETWEEN **LH FWD UTILITY** CB 131CB1 AND STA 260 LH FWD RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE **LH FWD UTILITY** CIRCUIT BREAKER 131CB1

NO ELECTRICAL POWER AT UTIL RCPT 28VDC RECEPTACLE IN NO. 1 PDP


CHECK FOR 28VDC BETWEEN SMALL SOCKET (+) ON **UTIL RCPT 28VDC** RECEPTACLE AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W552 GD048A16N BETWEEN RECEPTACLE AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
OPEN NO. 1 PDP. CHECK FOR 28VDC AT CIRCUIT SIDE OF **COPLT UTILITY RCPT** CB 131CB5. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W550 22-16 BETWEEN **COPLT UTILITY RCPT** CB 131CB5 AND **UTIL RCPT** 28VDC RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE **COPLT UTILITY RCPT** CB 131CB5

END OF TASK

9-17.7 NO ELECTRICAL POWER AT UTILITY DC RECEPTACLES ON RIGHT SIDE OF AIRCRAFT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

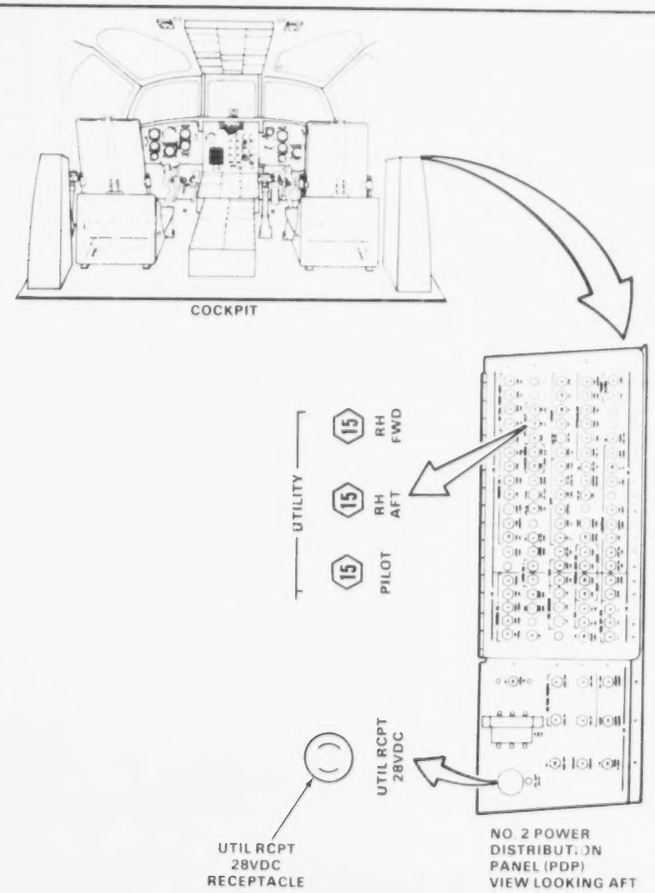
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

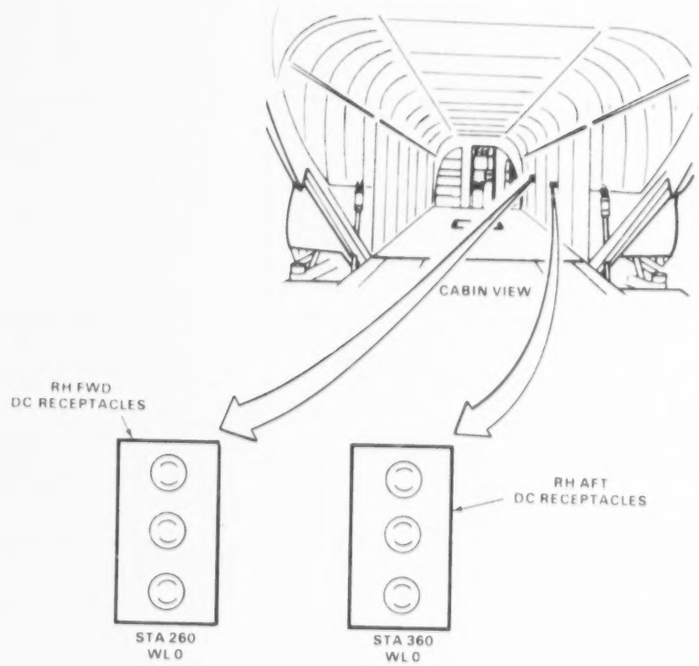
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off





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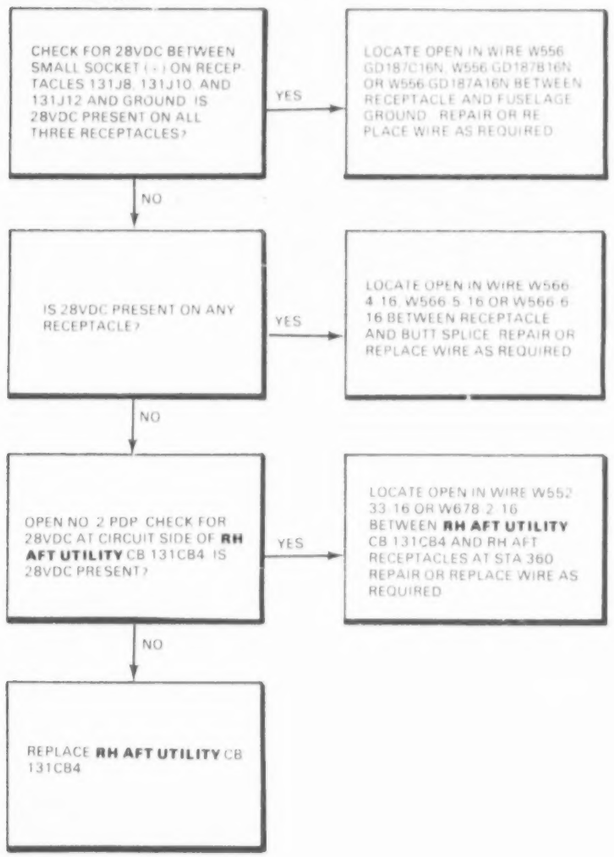
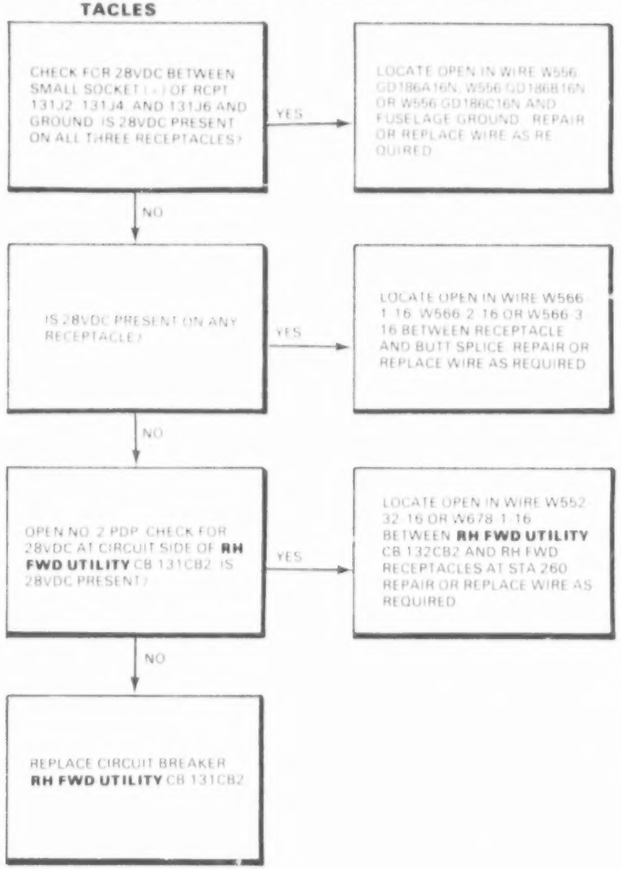
9-17.7 NO ELECTRICAL POWER AT UTILITY DC RECEPTACLES ON RIGHT SIDE OF AIRCRAFT (Continued)

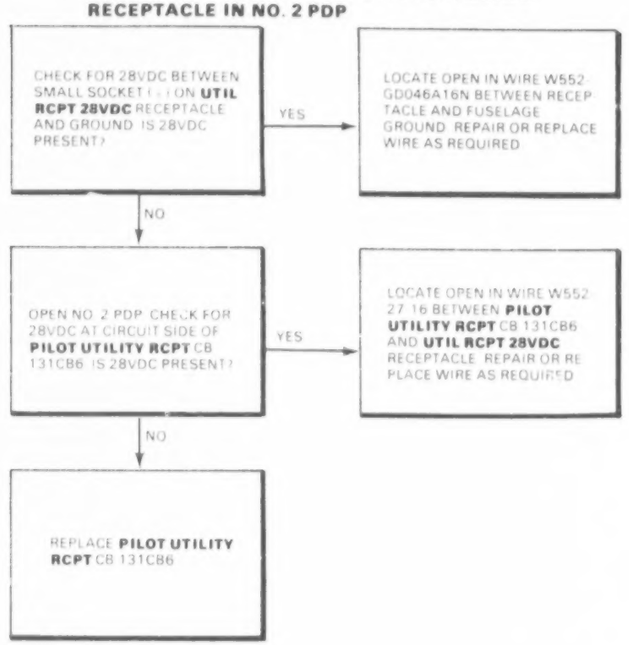
NO ELECTRICAL POWER AT RH AFT DC RECEPTACLE


CHECK FOR 28VDC BETWEEN SMALL SOCKET (+) ON RECEPTACLES 131J8, 131J10, AND 131J12 AND GROUND. IS 28VDC PRESENT ON ALL THREE RECEPTACLES?
YES
LOCATE OPEN IN WIRE W556 GD187C16N, W556 GD187B16N OR W556 GD187A16N BETWEEN RECEPTACLE AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
IS 28VDC PRESENT ON ANY RECEPTACLE?
YES
LOCATE OPEN IN WIRE W566 4-16, W566 5-16 OR W566 6-16 BETWEEN RECEPTACLE AND BUTT SPLICE. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
OPEN NO. 2 PDP. CHECK FOR 28VDC AT CIRCUIT SIDE OF **RH AFT UTILITY** CB 131CB4. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W552 33-16 OR W678 2-16 BETWEEN **RH AFT UTILITY** CB 131CB4 AND RH AFT RECEPTACLES AT STA 360. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE **RH AFT UTILITY** CB 131CB4

NO ELECTRICAL POWER AT RH FWD DC RECEPTACLES


CHECK FOR 28VDC BETWEEN SMALL SOCKET (+) OF RCPT 131J2, 131J4, AND 131J6 AND GROUND. IS 28VDC PRESENT ON ALL THREE RECEPTACLES?
YES
LOCATE OPEN IN WIRE W556 GD186A16N, W556 GD186B16N OR W556 GD186C16N AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
IS 28VDC PRESENT ON ANY RECEPTACLE?
YES
LOCATE OPEN IN WIRE W566 1-16, W566 2-16 OR W566 3-16 BETWEEN RECEPTACLE AND BUTT SPLICE. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
OPEN NO. 2 PDP. CHECK FOR 28VDC AT CIRCUIT SIDE OF **RH FWD UTILITY** CB 131CB2. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W552 32-16 OR W678 1-16 BETWEEN **RH FWD UTILITY** CB 132CB2 AND RH FWD RECEPTACLES AT STA 260. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE CIRCUIT BREAKER **RH FWD UTILITY** CB 131CB2

NO ELECTRICAL POWER AT UTIL RCPT 28VDC RECEPTACLE IN NO. 2 PDP


CHECK FOR 28VDC BETWEEN SMALL SOCKET (+) ON **UTIL RCPT 28VDC** RECEPTACLE AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W552 GD046A16N BETWEEN RECEPTACLE AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
OPEN NO. 2 PDP. CHECK FOR 28VDC AT CIRCUIT SIDE OF **PILOT UTILITY RCPT** CB 131CB6. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W552 27-16 BETWEEN **PILOT UTILITY RCPT** CB 131CB6 AND **UTIL RCPT 28VDC** RECEPTACLE. REPAIR OR REPLACE WIRE AS REQUIRED.
NO
REPLACE **PILOT UTILITY RCPT** CB 131CB6

END OF TASK

9-17.8 NO ELECTRICAL POWER AT UTILITY AC RECEPTACLES ON LEFT SIDE OF AIRCRAFT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

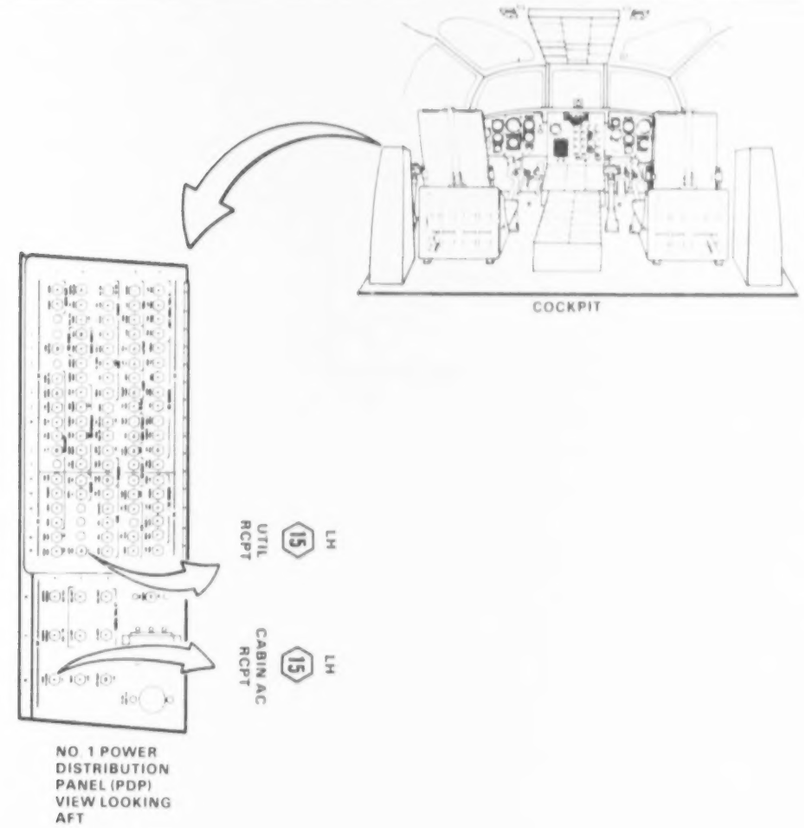
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Configuration:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Powr Off
Utility Receptacles Dust Covers Removed



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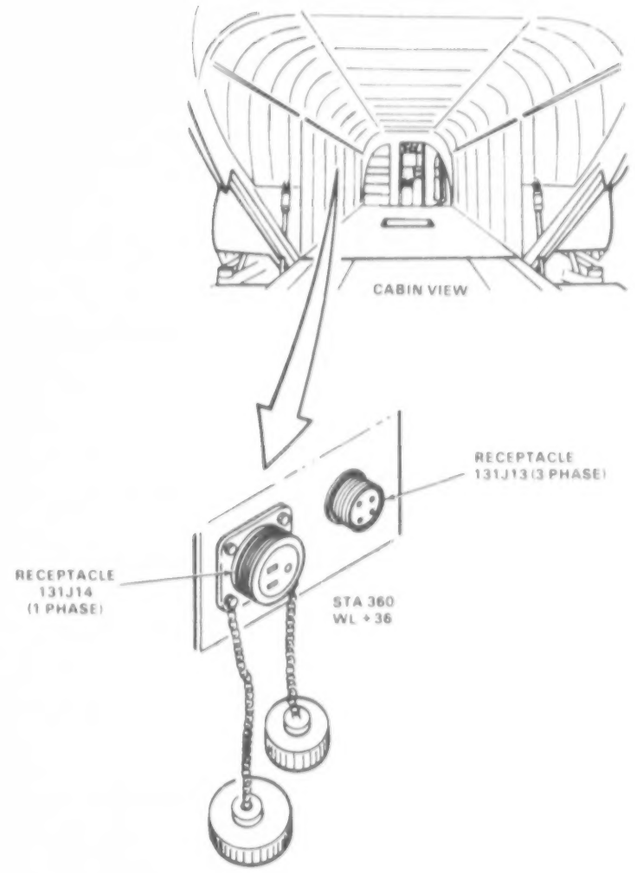

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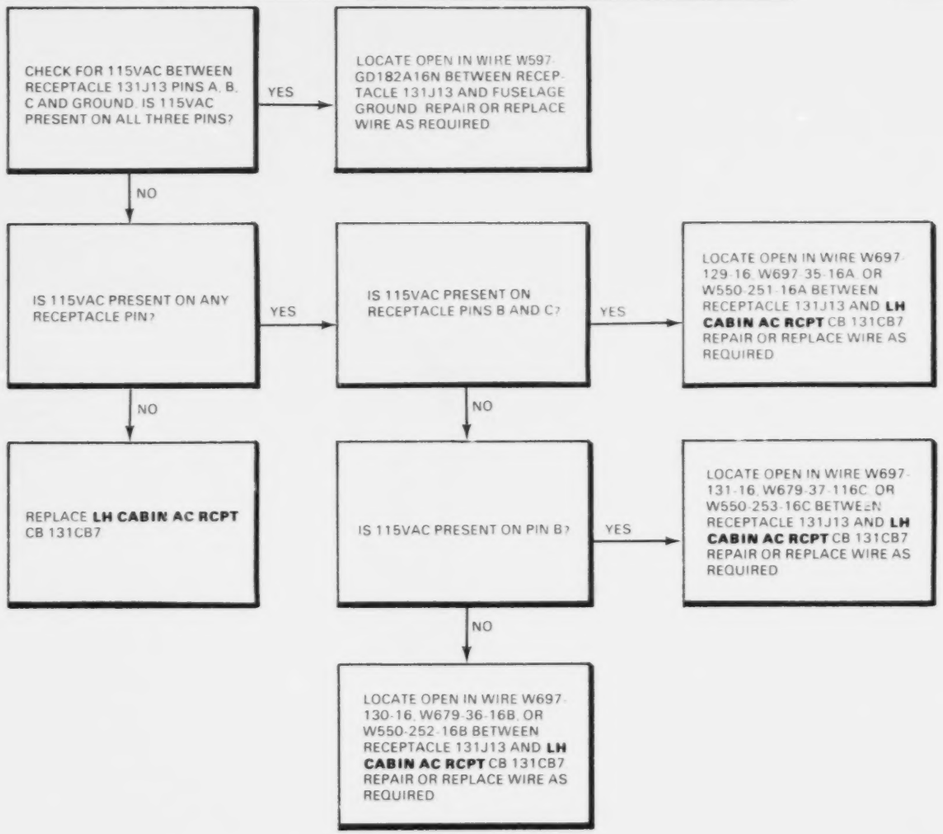
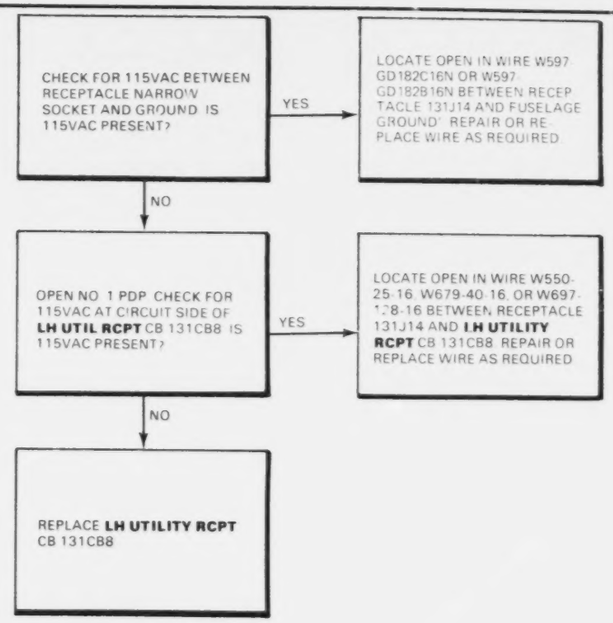
9-17.8 NO ELECTRICAL POWER AT UTILITY AC RECEPTACLE ON LEFT SIDE OF AIRCRAFT (Continued)

NO ELECTRICAL POWER AT LEFT 3-PHASE UTILITY RECEPTACLE


CHECK FOR 115VAC BETWEEN RECEPTACLE 131J13 PINS A, B, C AND GROUND. IS 115VAC PRESENT ON ALL THREE PINS?
YES
LOCATE OPEN IN WIRE W597-GD182A16N BETWEEN RECEPTACLE 131J13 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
IS 115VAC PRESENT ON ANY RECEPTACLE PIN?
YES
IS 115VAC PRESENT ON RECEPTACLE PINS B AND C?
YES
LOCATE OPEN IN WIRE W697-129-16, W697-35-16A, OR W550-251-16A BETWEEN RECEPTACLE 131J13 AND LH CABIN AC RCPT CB 131CB7. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE LH CABIN AC RCPT CB 131CB7
NO
IS 115VAC PRESENT ON PIN B?
YES
LOCATE OPEN IN WIRE W697-131-16, W679-37-116C, OR W550-253-16C BETWEEN RECEPTACLE 131J13 AND LH CABIN AC RCPT CB 131CB7. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W697-130-16, W679-36-16B, OR W550-252-16B BETWEEN RECEPTACLE 131J13 AND LH CABIN AC RCPT CB 131CB7. REPAIR OR REPLACE WIRE AS REQUIRED

NO ELECTRICAL POWER AT LEFT SINGLE PHASE UTILITY RECEPTACLE


CHECK FOR 115VAC BETWEEN RECEPTACLE NARROW SOCKET AND GROUND. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRE W597-GD182C16N OR W597-GD182B16N BETWEEN RECEPTACLE 131J14 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
OPEN NO. 1 PDP. CHECK FOR 115VAC AT CIRCUIT SIDE OF LH UTIL RCPT CB 131CB8. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRE W550-25-16, W679-40-16, OR W697-128-16 BETWEEN RECEPTACLE 131J14 AND LH UTILITY RCPT CB 131CB8. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE LH UTILITY RCPT CB 131CB8

END OF TASK

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9-17.9 NO ELECTRICAL POWER AT UTILITY AC RECEPTACLE ON RIGHT SIDE OF AIRCRAFT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

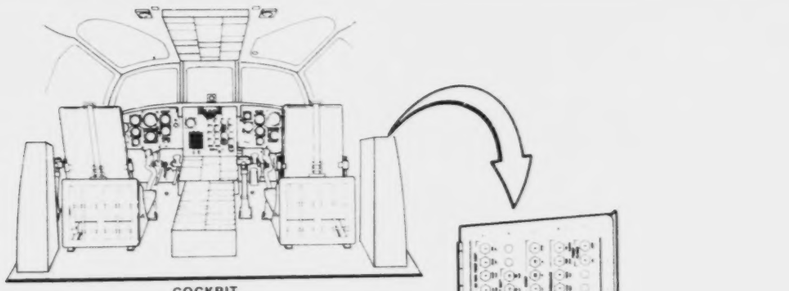
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

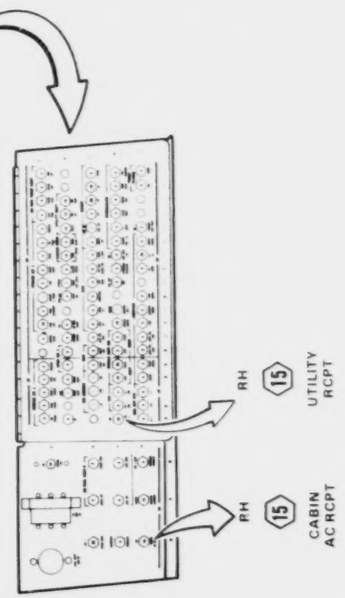
Materials:
None

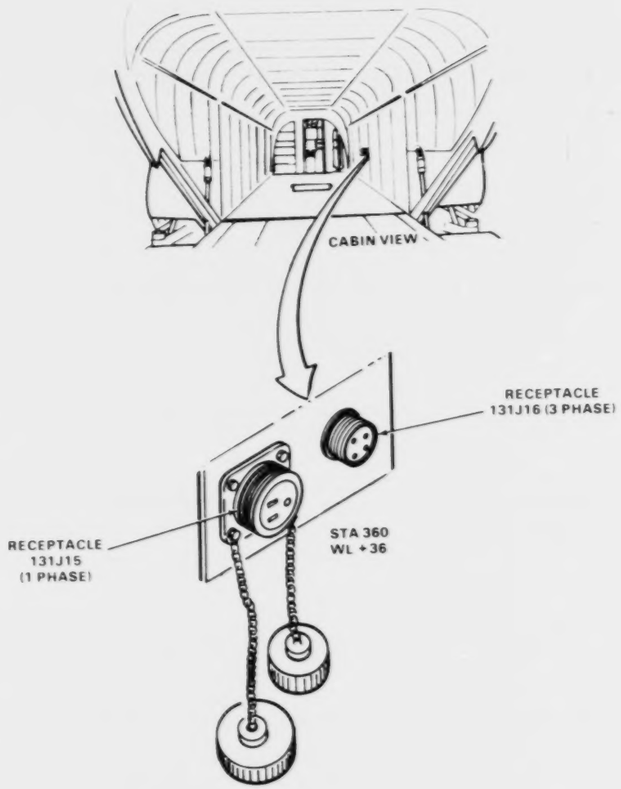
Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Utility Receptacle Dust Covers Removed







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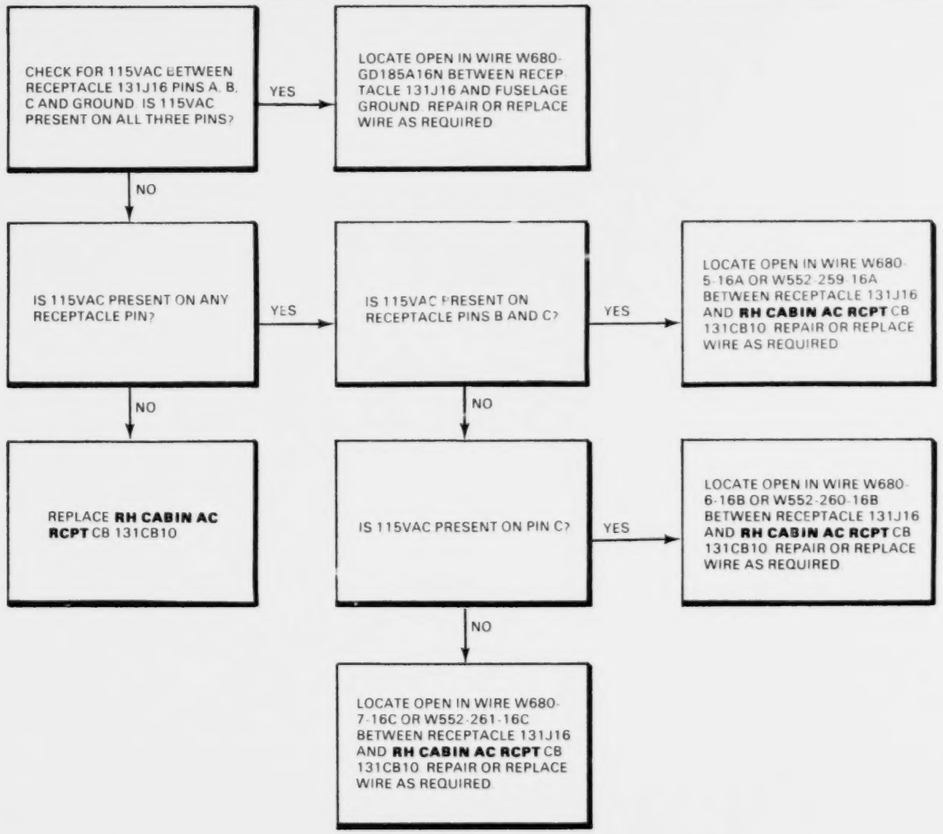
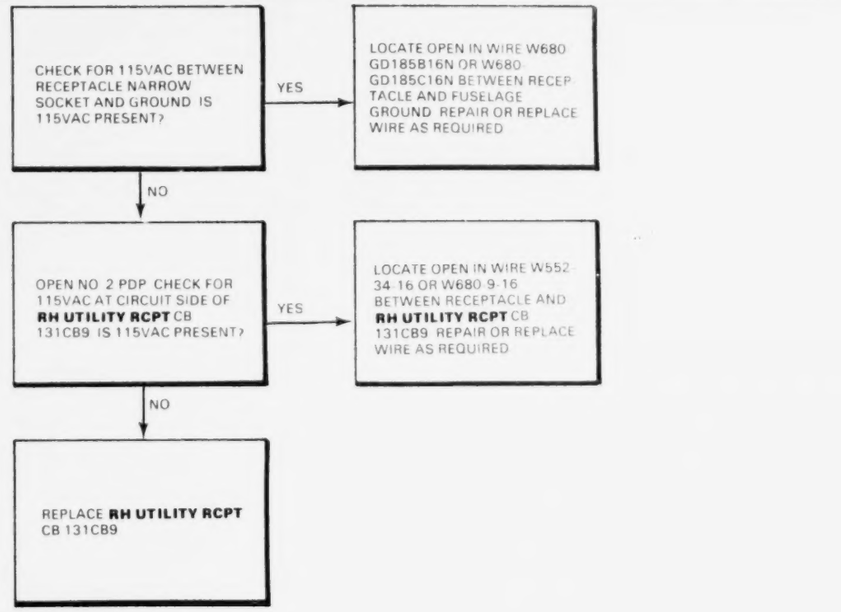
9-17.9 NO ELECTRICAL POWER AT UTILITY AC RECEPTACLE ON RIGHT SIDE OR AIRCRAFT (Continued)

NO ELECTRICAL POWER AT RIGHT 3-PHASE UTILITY RECEPTACLE

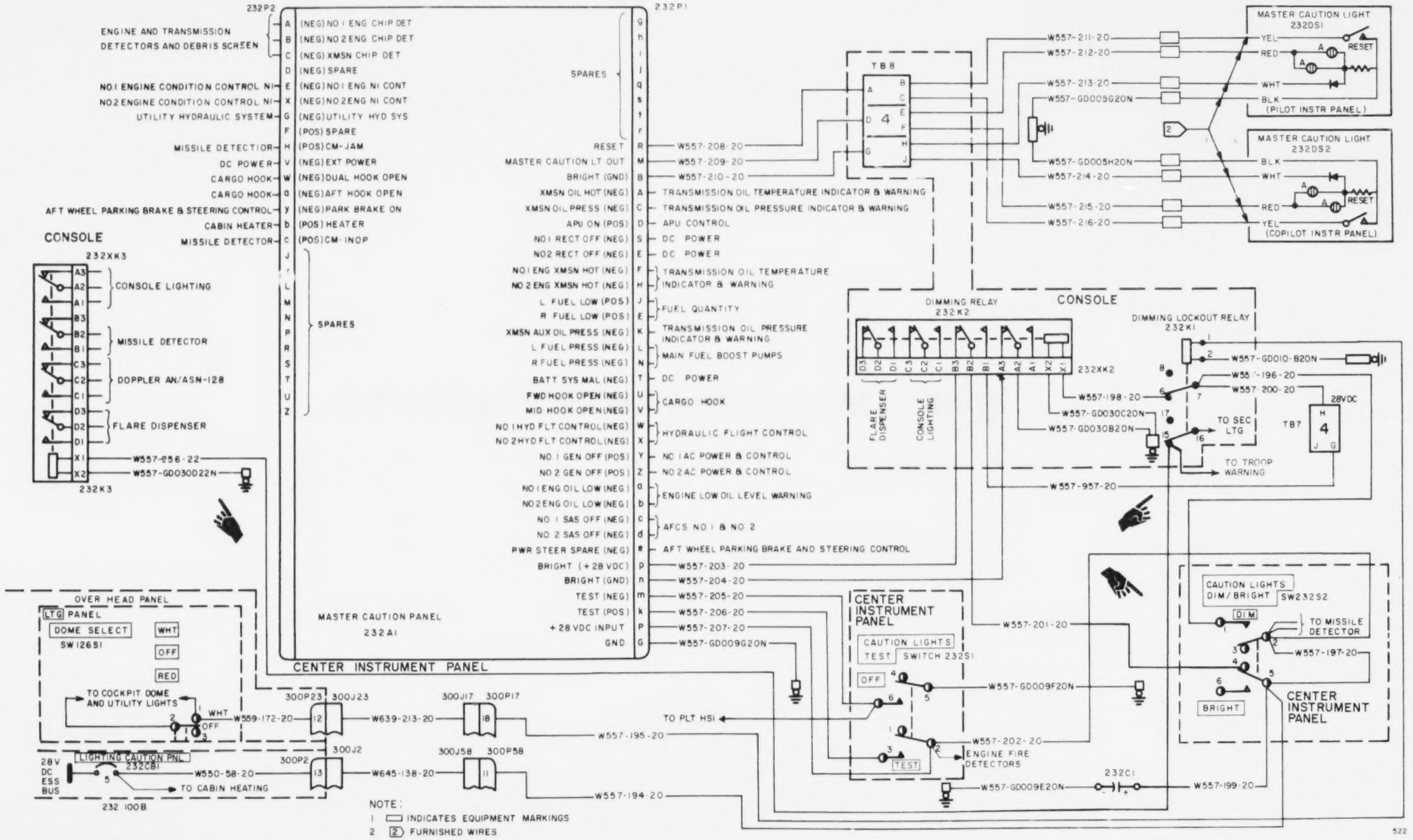

CHECK FOR 115VAC BETWEEN RECEPTACLE 131J16 PINS A, B, C AND GROUND. IS 115VAC PRESENT ON ALL THREE PINS?
YES
LOCATE OPEN IN WIRE W680-GD185A16N BETWEEN RECEPTACLE 131J16 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
IS 115VAC PRESENT ON ANY RECEPTACLE PIN?
YES
IS 115VAC PRESENT ON RECEPTACLE PINS B AND C?
YES
LOCATE OPEN IN WIRE W680-5-16A OR W552-259-16A BETWEEN RECEPTACLE 131J16 AND **RH CABIN AC RCPT** CB 131CB10. REPAIR OR REPLACE WIRE AS REQUIRED
NO
NO
REPLACE **RH CABIN AC RCPT** CB 131CB10
IS 115VAC PRESENT ON PIN C?
YES
LOCATE OPEN IN WIRE W680-6-16B OR W552-260-16B BETWEEN RECEPTACLE 131J16 AND **RH CABIN AC RCPT** CB 131CB10. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W680-7-16C OR W552-261-16C BETWEEN RECEPTACLE 131J16 AND **RH CABIN AC RCPT** CB 131CB10. REPAIR OR REPLACE WIRE AS REQUIRED

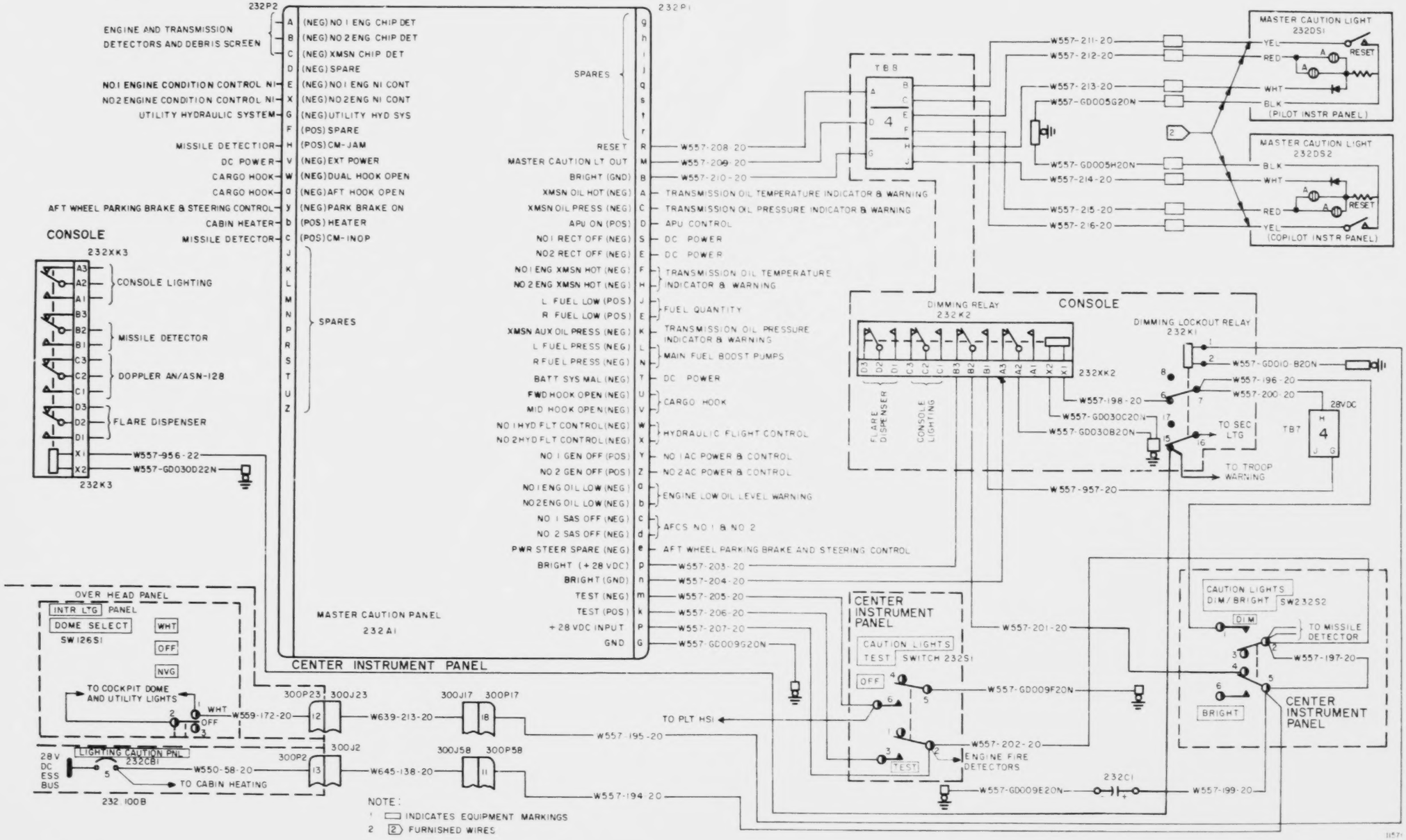
NO ELECTRICAL POWER AT RIGHT SINGLE PHASE UTILITY RECEPTACLE


CHECK FOR 115VAC BETWEEN RECEPTACLE NARROW SOCKET AND GROUND. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRE W680-GD185B16N OR W680-GD185C16N BETWEEN RECEPTACLE AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
OPEN NO. 2 PDP. CHECK FOR 115VAC AT CIRCUIT SIDE OF **RH UTILITY RCPT** CB 131CB9. IS 115VAC PRESENT?
YES
LOCATE OPEN IN WIRE W552-34-16 OR W680-9-16 BETWEEN RECEPTACLE AND **RH UTILITY RCPT** CB 131CB9. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE **RH UTILITY RCPT** CB 131CB9

END OF TASK

9-18 MASTER CAUTION LIGHTS


232P2
ENGINE AND TRANSMISSION DETECTORS AND DEBRIS SCREEN
(NEG) NO 1 ENG CHIP DET
(NEG) NO 2 ENG CHIP DET
(NEG) XMSN CHIP DET
(NEG) SPARE
NO 1 ENGINE CONDITION CONTROL NI
(NEG) NO 1 ENG NI CONT
NO 2 ENGINE CONDITION CONTROL NI
(NEG) NO 2 ENG NI CONT
UTILITY HYDRAULIC SYSTEM
(NEG) UTILITY HYD SYS
(POS) SPARE
MISSILE DETECTION
(POS) CM-JAM
DC POWER
(NEG) EXT POWER
CARGO HOOK
(NEG) DUAL HOOK OPEN
CARGO HOOK
(NEG) AFT HOOK OPEN
AFT WHEEL PARKING BRAKE & STEERING CONTROL
(NEG) PARK BRAKE ON
CABIN HEATER
(POS) HEATER
MISSILE DETECTOR
(POS) CM-INOP
SPARES
CONSOLE
232XK3
CONSOLE LIGHTING
MISSILE DETECTOR
DOPPLER AN/ASN-128
FLARE DISPENSER
W557-856-22
W557-GD030D22N
232K3
MASTER CAUTION PANEL
232A1
232P1
SPARES
RESET
W557-208-20
MASTER CAUTION LT OUT
W557-209-20
BRIGHT (GND)
W557-210-20
XMSN OIL HOT (NEG)
TRANSMISSION OIL TEMPERATURE INDICATOR & WARNING
XMSN OIL PRESS (NEG)
TRANSMISSION OIL PRESSURE INDICATOR & WARNING
APU ON (POS)
APU CONTROL
NO 1 RECT OFF (NEG)
DC POWER
NO 2 RECT OFF (NEG)
DC POWER
NO 1 ENG XMSN HOT (NEG)
NO 2 ENG XMSN HOT (NEG)
TRANSMISSION OIL TEMPERATURE INDICATOR & WARNING
L FUEL LOW (POS)
R FUEL LOW (POS)
FUEL QUANTITY
XMSN AUX OIL PRESS (NEG)
TRANSMISSION OIL PRESSURE INDICATOR & WARNING
L FUEL PRESS (NEG)
R FUEL PRESS (NEG)
MAIN FUEL BOOST PUMPS
BATT SYS MAL (NEG)
DC POWER
FWD HOOK OPEN (NEG)
MID HOOK OPEN (NEG)
CARGO HOOK
NO 1 HYD FLT CONTROL (NEG)
NO 2 HYD FLT CONTROL (NEG)
HYDRAULIC FLIGHT CONTROL
NO 1 GEN OFF (POS)
NO 1 AC POWER & CONTROL
NO 2 GEN OFF (POS)
NO 2 AC POWER & CONTROL
NO 1 ENG OIL LOW (NEG)
NO 2 ENG OIL LOW (NEG)
ENGINE LOW OIL LEVEL WARNING
NO 1 SAS OFF (NEG)
NO 2 SAS OFF (NEG)
AFCS NO 1 & NO 2
PWR STEER SPARE (NEG)
AFT WHEEL PARKING BRAKE AND STEERING CONTROL
BRIGHT (+28 VDC)
W557-203-20
BRIGHT (GND)
W557-204-20
TEST (NEG)
W557-205-20
TEST (POS)
W557-206-20
+28 VDC INPUT
W557-207-20
GND
W557-GD009G20N
CENTER INSTRUMENT PANEL
TB8
W557-211-20
W557-212-20
W557-213-20
W557-GD005G20N
W557-GD005H20N
W557-214-20
W557-215-20
W557-216-20
MASTER CAUTION LIGHT 2320S1
YEL
RED
WHT
BLK
(PILOT INSTR PANEL)
MASTER CAUTION LIGHT 2320S2
BLK
WHT
RED
YEL
(COPILOT INSTR PANEL)
RESET
DIMMING RELAY 232K2
CONSOLE
232XK2
FLARE DISPENSER
CONSOLE LIGHTING
DIMMING LOCKOUT RELAY 232K1
W557-GD010-B20N
W557-196-20
W557-200-20
28VDC
W557-198-20
W557-GD030C20N
W557-GD030B20N
TO SEC LTG
TO TROOP WARNING
TB7
W557-957-20
OVER HEAD PANEL
LTG PANEL
DOME SELECT
SW126S1
WHT
OFF
RED
TO COCKPIT DOME AND UTILITY LIGHTS
W559-172-20
300P23
300J23
W639-213-20
300J17
300P17
W557-195-20
TO PLT HSI
300J2
300P2
W645-138-20
300J58
300P58
W557-194-20
28V DC ESS BUS
LIGHTING CAUTION PNL
232CB1
W550-58-20
TO CABIN HEATING
232 100B
CENTER INSTRUMENT PANEL
CAUTION LIGHTS TEST SWITCH 232S1
OFF
TEST
W557-GD009F20N
W557-201-20
W557-202-20
ENGINE FIRE DETECTORS
W557-GD009E20N
232C1
W557-199-20
CAUTION LIGHTS DIM/BRIGHT SW232S2
DIM
BRIGHT
TO MISSILE DETECTOR
W557-197-20
CENTER INSTRUMENT PANEL
NOTE:
1 INDICATES EQUIPMENT MARKINGS
2 (2) FURNISHED WIRES
522


232P2
232P1
ENGINE AND TRANSMISSION DETECTORS AND DEBRIS SCREEN
(NEG) NO 1 ENG CHIP DET
(NEG) NO 2 ENG CHIP DET
(NEG) XMSN CHIP DET
(NEG) SPARE
NO 1 ENGINE CONDITION CONTROL NI
NO 2 ENGINE CONDITION CONTROL NI
UTILITY HYDRAULIC SYSTEM
(NEG) NO 1 ENG NI CONT
(NEG) NO 2 ENG NI CONT
(NEG) UTILITY HYD SYS
(POS) SPARE
MISSILE DETECTION
DC POWER
CARGO HOOK
CARGO HOOK
AFT WHEEL PARKING BRAKE & STEERING CONTROL
CABIN HEATER
MISSILE DETECTOR
(POS) CM-JAM
(NEG) EXT POWER
(NEG) DUAL HOOK OPEN
(NEG) AFT HOOK OPEN
(NEG) PARK BRAKE ON
(POS) HEATER
(POS) CM-INOP
SPARES
CONSOLE
232XK3
CONSOLE LIGHTING
MISSILE DETECTOR
DOPPLER AN/ASN-128
FLARE DISPENSER
W557-956-22
W557-GD030D22N
232K3
MASTER CAUTION PANEL
232A1
RESET
MASTER CAUTION LT OUT
BRIGHT (GND)
XMSN OIL HOT (NEG)
XMSN OIL PRESS (NEG)
APU ON (POS)
NO 1 RECT OFF (NEG)
NO 2 RECT OFF (NEG)
NO 1 ENG XMSN HOT (NEG)
NO 2 ENG XMSN HOT (NEG)
L FUEL LOW (POS)
R FUEL LOW (POS)
XMSN AUX OIL PRESS (NEG)
L FUEL PRESS (NEG)
R FUEL PRESS (NEG)
BATT SYS MAL (NEG)
FWD HOOK OPEN (NEG)
MID HOOK OPEN (NEG)
NO 1 HYD FLT CONTROL (NEG)
NO 2 HYD FLT CONTROL (NEG)
NO 1 GEN OFF (POS)
NO 2 GEN OFF (POS)
NO 1 ENG OIL LOW (NEG)
NO 2 ENG OIL LOW (NEG)
NO 1 SAS OFF (NEG)
NO 2 SAS OFF (NEG)
PWR STEER SPARE (NEG)
BRIGHT (+28 VDC)
BRIGHT (GND)
TEST (NEG)
TEST (POS)
+28 VDC INPUT
GND
W557-208-20
W557-209-20
W557-210-20
TRANSMISSION OIL TEMPERATURE INDICATOR & WARNING
TRANSMISSION OIL PRESSURE INDICATOR & WARNING
APU CONTROL
DC POWER
DC POWER
TRANSMISSION OIL TEMPERATURE INDICATOR & WARNING
FUEL QUANTITY
TRANSMISSION OIL PRESSURE INDICATOR & WARNING
MAIN FUEL BOOST PUMPS
DC POWER
CARGO HOOK
HYDRAULIC FLIGHT CONTROL
NO 1 AC POWER & CONTROL
NO 2 AC POWER & CONTROL
ENGINE LOW OIL LEVEL WARNING
AFCS NO 1 & NO 2
AFT WHEEL PARKING BRAKE AND STEERING CONTROL
W557-203-20
W557-204-20
W557-205-20
W557-206-20
W557-207-20
W557-GD009G20N
TB8
W557-211-20
W557-212-20
W557-213-20
W557-GD005G20N
W557-GD005H20N
W557-214-20
W557-215-20
W557-216-20
MASTER CAUTION LIGHT 232DS1
YEL
RED
WHT
BLK
RESET
(PILOT INSTR PANEL)
MASTER CAUTION LIGHT 232DS2
BLK
WHT
RED
YEL
RESET
(COPILOT INSTR PANEL)
DIMMING RELAY 232K2
CONSOLE
232XK2
FLARE DISPENSER
CONSOLE LIGHTING
W557-198-20
W557-GD030C20N
W557-GD030B20N
W557-957-20
DIMMING LOCKOUT RELAY 232K1
W557-GD010-B20N
W557-196-20
W557-200-20
28VDC
TO SEC LTG
TO TROOP WARNING
TB7
OVER HEAD PANEL
INTR LTG PANEL
DOME SELECT
SW126S1
WHT
OFF
NVG
TO COCKPIT DOME AND UTILITY LIGHTS
W559-172-20
300P23
300J23
W639-213-20
300J17
300P17
W557-195-20
TO PLT HSI
28V DC ESS BUS
LIGHTING CAUTION PNL
232CB1
W550-58-20
TO CABIN HEATING
232 100B
300P2
300J2
W645-138-20
300J58
300P58
W557-194-20
CENTER INSTRUMENT PANEL
CAUTION LIGHTS TEST SWITCH 232S1
OFF
TEST
W557-201-20
W557-GD009F20N
W557-202-20
ENGINE FIRE DETECTORS
W557-GD009E20N
232C1
W557-199-20
CAUTION LIGHTS DIM/BRIGHT SW232S2
DIM
BRIGHT
TO MISSILE DETECTOR
W557-197-20
CENTER INSTRUMENT PANEL
NOTE:
1 INDICATES EQUIPMENT MARKINGS
2 (2) FURNISHED WIRES

9-18.2 MASTER CAUTION LIGHTS VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

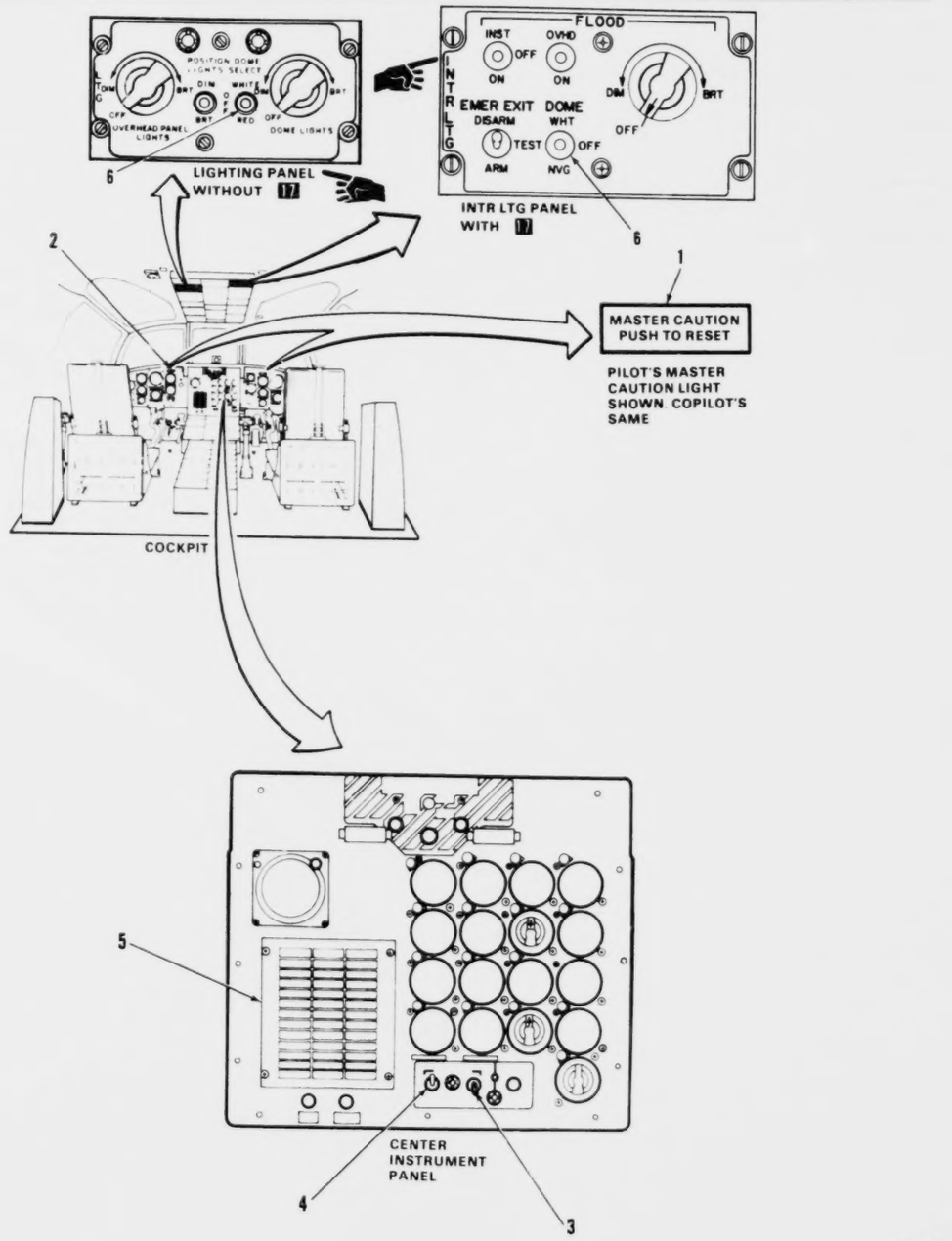
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check pilot's and copilot's MASTER CAUTION lights (1 and 2).**	If lights (1 and 2) are loose or damaged, tighten or replace them as required.
2. **Check CAUTION LIGHT TEST switch (3).**	If switch (3) is loose or damaged, tighten or replace it as required.
3. **Check CAUTION LIGHT DIM/BRIGHT switch (4).**	If switch (4) is loose or damaged, tighten or replace it as required.
4. **Check MASTER CAUTION PANEL (5).**	If caution panel (5) or capsules are loose or damaged, repair or replace it as required.
5. **Check DOME SELECT or DOME switch (6).**	If switch (6) is loose or damaged, tighten or replace it as required.

FOLLOW-ON MAINTENANCE:
None



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END OF TASK

9-18.3 MASTER CAUTION LIGHTS OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

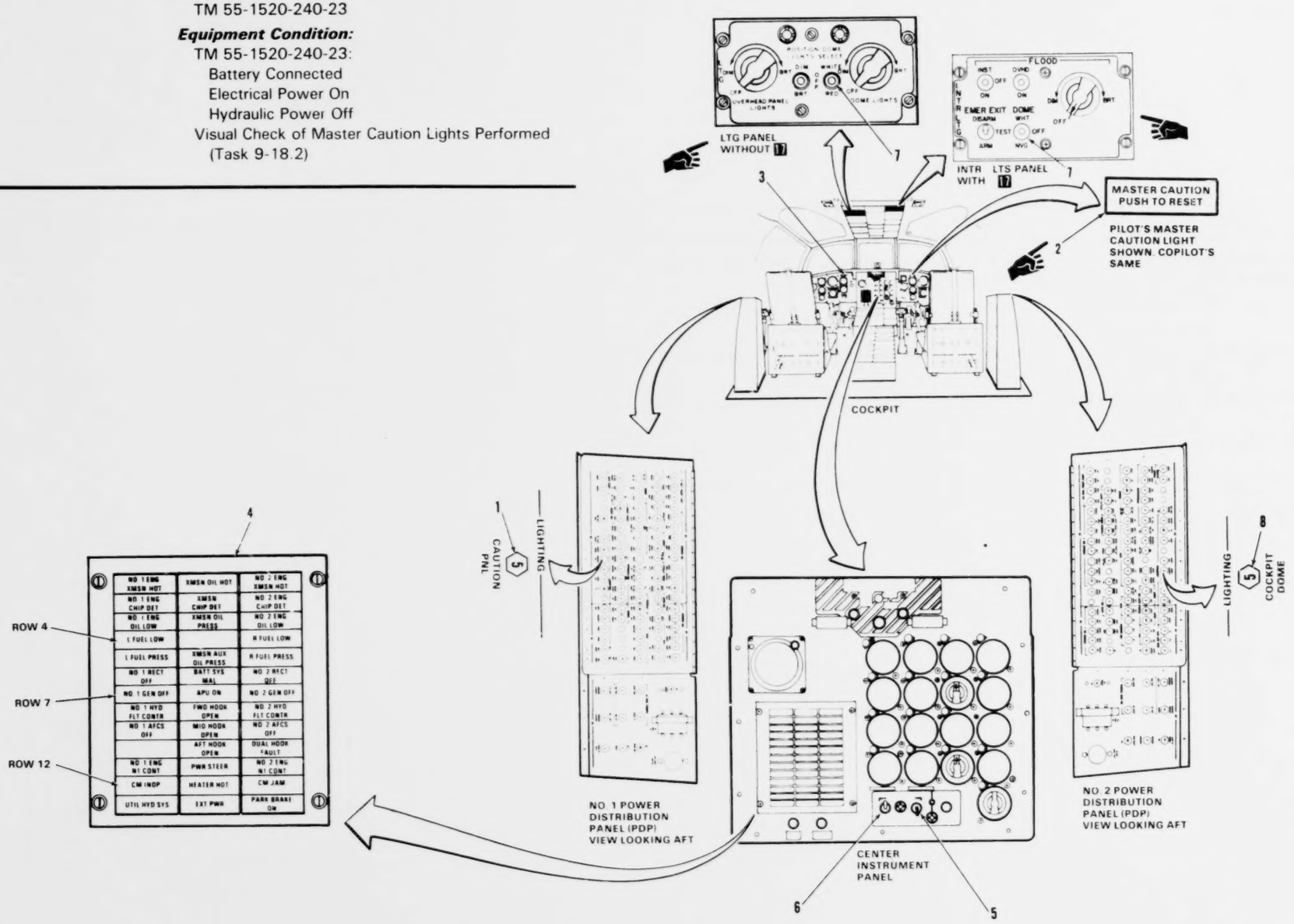
Tools:
None

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Visual Check of Master Caution Lights Performed (Task 9-18.2)



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9-18.3 MASTER CAUTION LIGHTS OPERATIONAL CHECK (Continued)

TASK	RESULT
1. **Check** that **LIGHTING CAUTION PNL circuit breaker (1)** is closed.	If CAUTION PNL circuit breaker (1) is open, close it. If it opens again, go to task 9-18.4.
2. **Check pilot's and copilot's master caution lights (2 and 3) and master caution panel capsules.**	Both pilot's and copilot's master caution lights (2 and 3) and some capsules on master caution panel (4) shall come on bright. If caution capsules do not come on, go to task 9-18.5. If pilot's or copilot's master caution lights do not come on, go to task 9-18.6. If master caution panel capsules and master caution lights come on dim, go to task 9-18.7. If one master caution light comes on dim and one comes on bright, go to task 9-18.12. If all capsules in rows 4, 7, and 12 are on or if all capsules in remaining rows are on, replace master caution panel. Repeat task 9-13.3.
3. **Press and release pilot's master caution light (2).**	Both pilot's and copilot's master caution lights (2 and 3) shall go out, lighted capsules on master caution panel (4) shall remain on. If pilot's and copilot's master caution lights remain on, go to task 9-18.8.
4. **Set** and hold **CAUTION LIGHTS TEST switch (5) to TEST.**	All capsules on master caution panel (4) and master caution lights (2 and 3) shall come on bright. If lights do not come on, go to task 9-18.8.
5. **Release CAUTION LIGHTS TEST switch (5) to OFF.**	Some capsules on master caution panel (4) shall go out. If none go out, replace CAUTION LIGHTS TEST switch.
6. **Open, then close LIGHTING CAUTION PNL** circuit breaker (1).	Both pilot and copilot master caution lights (2 and 3) capsule on master caution panel (5) shall come on bright. If pilot's or copilot's master caution lights do not come on, go to task 9-18.6.
7. **Momentarily set CAUTION LIGHTS DIM/BRIGHT switch (6) to DIM.**	Lighted capsules on master caution panel (4) and both caution lights (2 and 3) shall dim, if not, go to task 9-18.10.
8. **Momentarily set CAUTION LIGHTS DIM/BRIGHT switch (6) to BRIGHT.**	Lighted capsules on master caution panel (4) and both caution lights (2 and 3) shall get bright. If not, go to task 9-18.7.
9. Momentarily set **CAUTION LIGHTS DIM/BRIGHT** switch (6) to **DIM**.	
10. **Check** that **DOME SELECT or DOME switch (7) is at OFF.**	If switch (7) is not at OFF, set it to OFF.
11. **Check** that **LIGHTING COCKPIT DOME circuit breaker (8) is closed.**	If circuit breaker (8) is not closed, close it. If it opens again, go to task 9-14.3.
12. **Set DOME SELECT switch (7)** to **WHITE.**	Lighted capsules on master caution panel (4) and both caution lights (2 and 3) shall come on bright, if not go to task 9-18.11.
13. **Press and release copilot's master caution light (3).**	Both pilot's and copilot's master caution lights (2 and 3) shall go out. If not, go to task 9-18.8.
14. **Set DOME SELECT switch (7)** to **OFF.**	Lighted capsules on master caution panel (4) and both caution lights (2 and 3) shall remain bright.

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

END OF TASK

9-18.4 CAUTION PNL CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

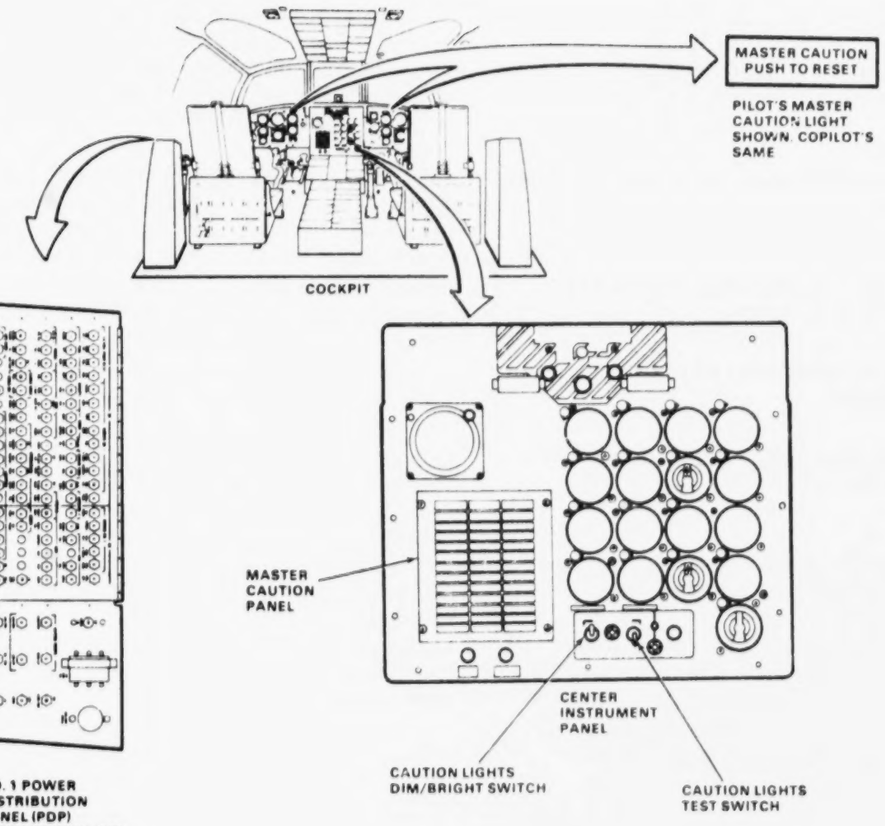
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

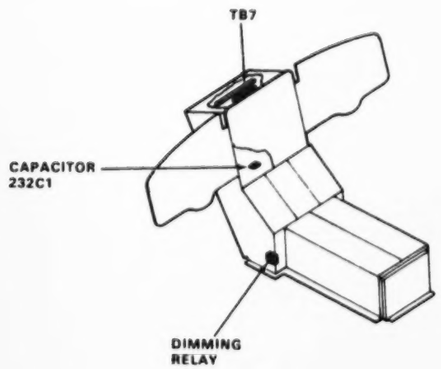
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

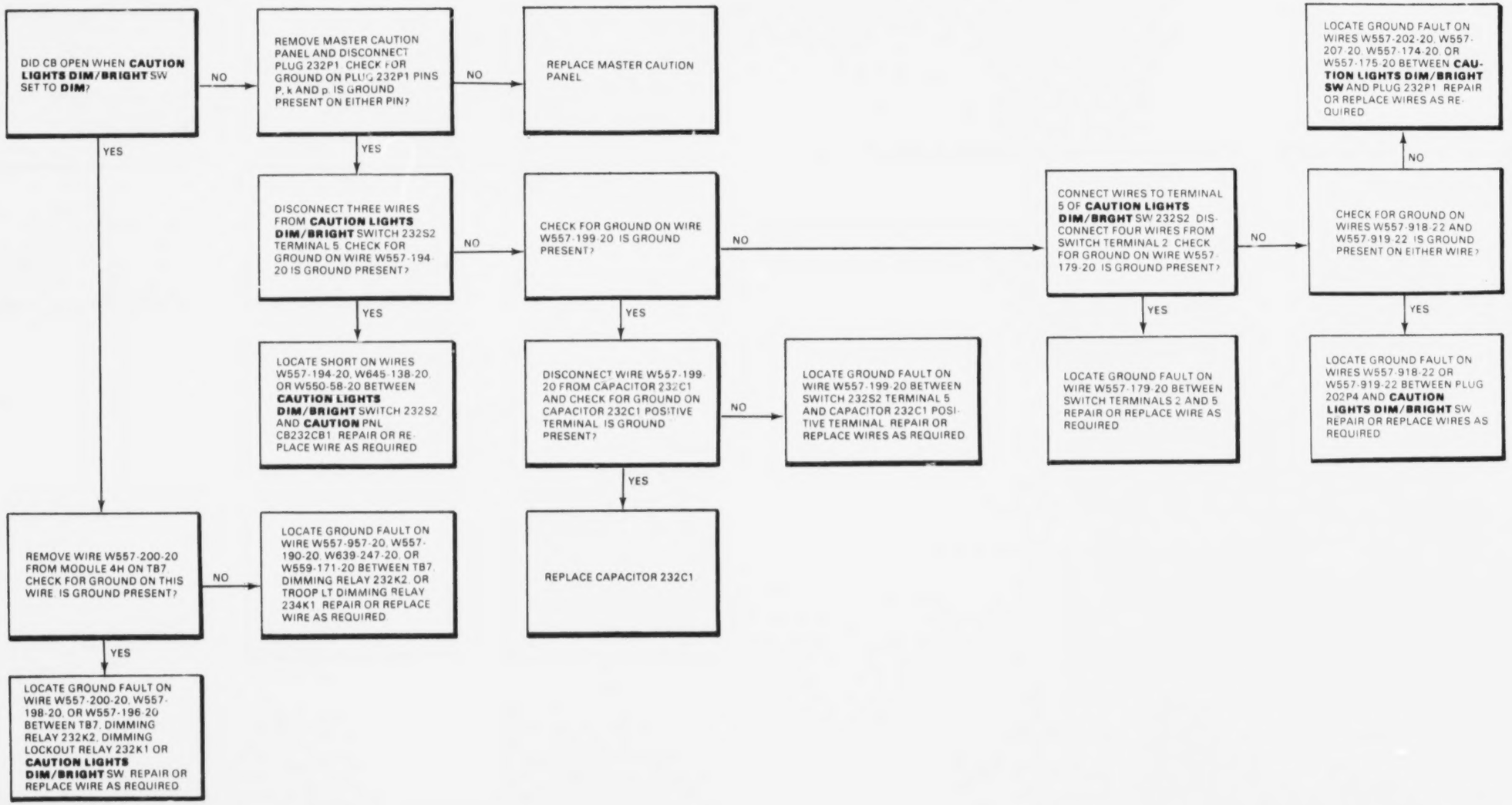
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off





9-18.4 CAUTION PNL CIRCUIT BREAKER WILL NOT STAY CLOSED (Continued)


DID CB OPEN WHEN CAUTION LIGHTS DIM/BRIGHT SW SET TO DIM?
NO
REMOVE MASTER CAUTION PANEL AND DISCONNECT PLUG 232P1. CHECK FOR GROUND ON PLUG 232P1 PINS P, k AND p. IS GROUND PRESENT ON EITHER PIN?
NO
REPLACE MASTER CAUTION PANEL
YES
DISCONNECT THREE WIRES FROM CAUTION LIGHTS DIM/BRIGHT SWITCH 232S2 TERMINAL 5. CHECK FOR GROUND ON WIRE W557-194-20. IS GROUND PRESENT?
NO
CHECK FOR GROUND ON WIRE W557-199-20. IS GROUND PRESENT?
NO
CONNECT WIRES TO TERMINAL 5 OF CAUTION LIGHTS DIM/BRGHT SW 232S2. DISCONNECT FOUR WIRES FROM SWITCH TERMINAL 2. CHECK FOR GROUND ON WIRE W557-179-20. IS GROUND PRESENT?
NO
CHECK FOR GROUND ON WIRES W557-918-22 AND W557-919-22. IS GROUND PRESENT ON EITHER WIRE?
NO
LOCATE GROUND FAULT ON WIRES W557-202-20, W557-207-20, W557-174-20, OR W557-175-20 BETWEEN CAUTION LIGHTS DIM/BRIGHT SW AND PLUG 232P1. REPAIR OR REPLACE WIRES AS REQUIRED
YES
LOCATE SHORT ON WIRES W557-194-20, W645-138-20, OR W550-58-20 BETWEEN CAUTION LIGHTS DIM/BRIGHT SWITCH 232S2 AND CAUTION PNL CB232CB1. REPAIR OR REPLACE WIRE AS REQUIRED
YES
DISCONNECT WIRE W557-199-20 FROM CAPACITOR 232C1 AND CHECK FOR GROUND ON CAPACITOR 232C1 POSITIVE TERMINAL. IS GROUND PRESENT?
NO
LOCATE GROUND FAULT ON WIRE W557-199-20 BETWEEN SWITCH 232S2 TERMINAL 5 AND CAPACITOR 232C1 POSITIVE TERMINAL. REPAIR OR REPLACE WIRES AS REQUIRED
YES
REPLACE CAPACITOR 232C1
YES
LOCATE GROUND FAULT ON WIRE W557-179-20 BETWEEN SWITCH TERMINALS 2 AND 5. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE GROUND FAULT ON WIRES W557-918-22 OR W557-919-22 BETWEEN PLUG 202P4 AND CAUTION LIGHTS DIM/BRIGHT SW. REPAIR OR REPLACE WIRES AS REQUIRED
YES
REMOVE WIRE W557-200-20 FROM MODULE 4H ON TB7. CHECK FOR GROUND ON THIS WIRE. IS GROUND PRESENT?
NO
LOCATE GROUND FAULT ON WIRE W557-957-20, W557-190-20, W639-247-20, OR W559-171-20 BETWEEN TB7, DIMMING RELAY 232K2, OR TROOP LT DIMMING RELAY 234K1. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE GROUND FAULT ON WIRE W557-200-20, W557-198-20, OR W557-196-20 BETWEEN TB7, DIMMING RELAY 232K2, DIMMING LOCKOUT RELAY 232K1 OR CAUTION LIGHTS DIM/BRIGHT SW. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

9-18.5 MASTER CAUTION PANEL LIGHTS DO NOT COME ON WHEN BATTERY SWITCH SET TO ON 9-18.5

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

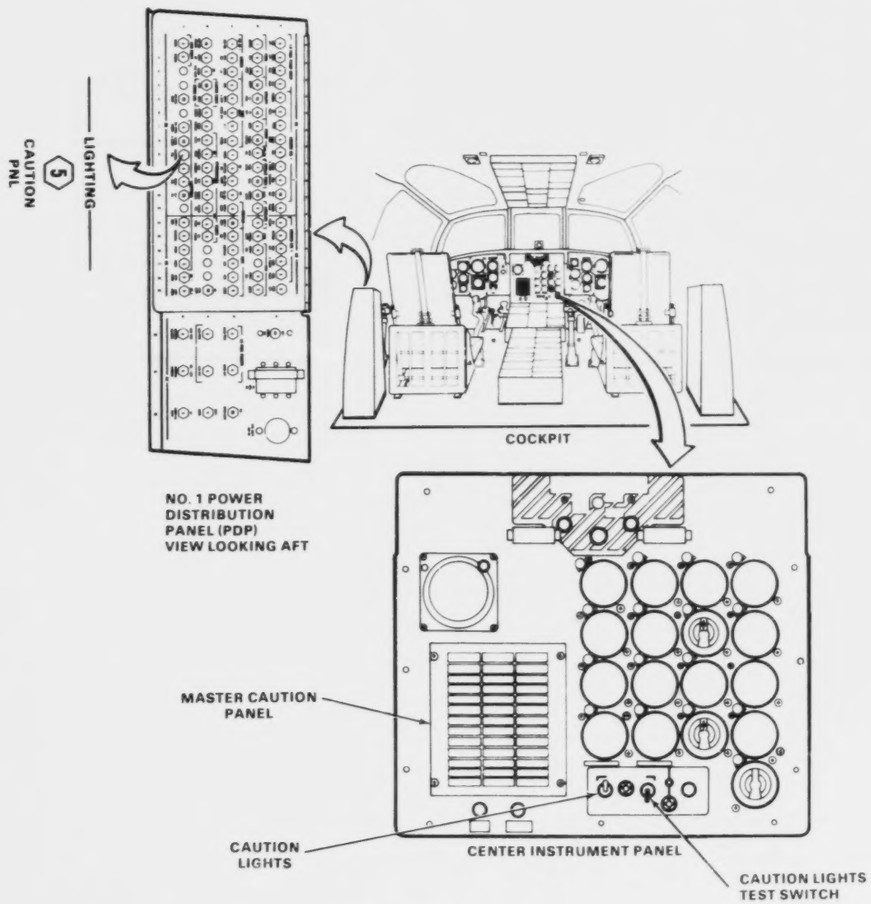
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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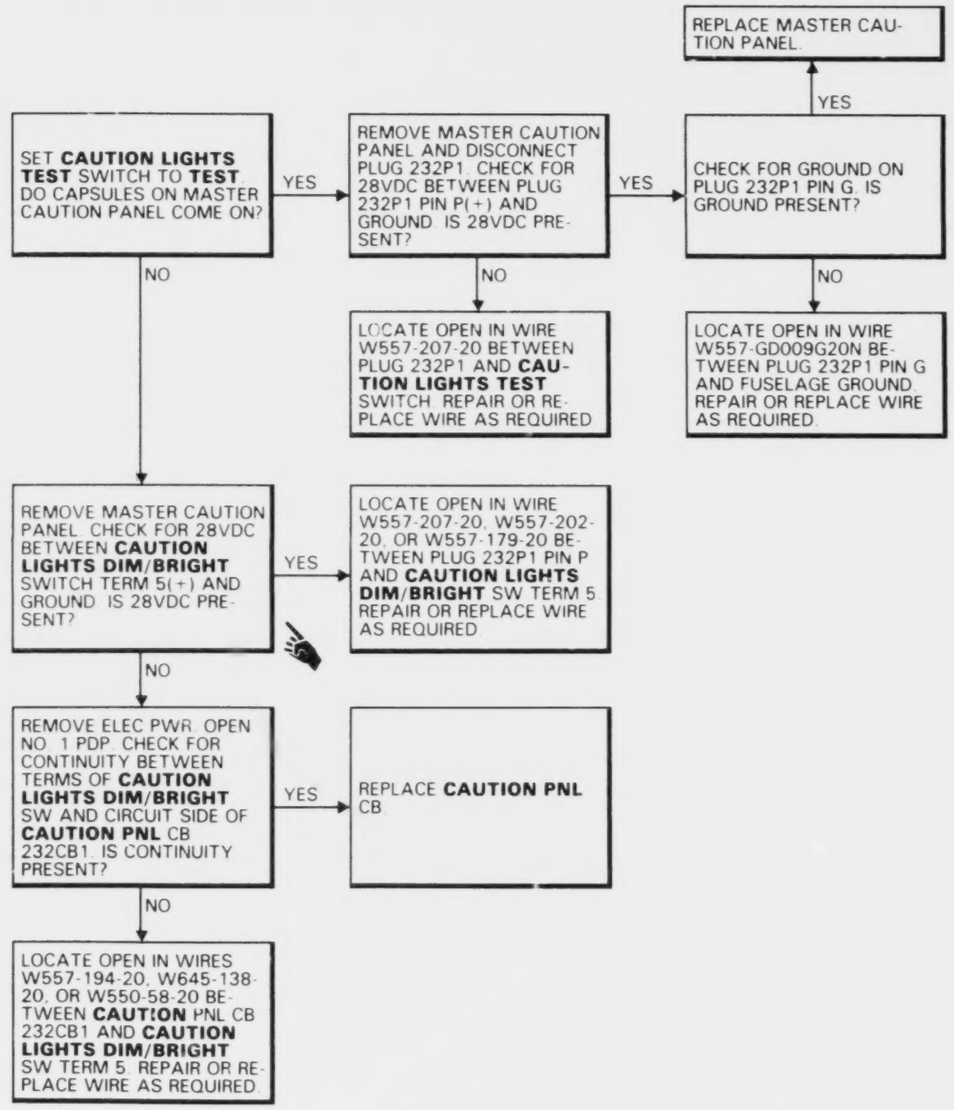

SET **CAUTION LIGHTS TEST** SWITCH TO **TEST** DO CAPSULES ON MASTER CAUTION PANEL COME ON?
YES
NO
REMOVE MASTER CAUTION PANEL AND DISCONNECT PLUG 232P1. CHECK FOR 28VDC BETWEEN PLUG 232P1 PIN P(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-207-20 BETWEEN PLUG 232P1 AND **CAUTION LIGHTS TEST** SWITCH. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR GROUND ON PLUG 232P1 PIN G. IS GROUND PRESENT?
YES
NO
REPLACE MASTER CAUTION PANEL.
LOCATE OPEN IN WIRE W557-GD009G20N BETWEEN PLUG 232P1 PIN G AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE MASTER CAUTION PANEL. CHECK FOR 28VDC BETWEEN **CAUTION LIGHTS DIM/BRIGHT** SWITCH TERM 5(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-207-20, W557-202-20, OR W557-179-20 BETWEEN PLUG 232P1 PIN P AND **CAUTION LIGHTS DIM/BRIGHT** SW TERM 5. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE ELEC PWR. OPEN NO. 1 PDP. CHECK FOR CONTINUITY BETWEEN TERMS OF **CAUTION LIGHTS DIM/BRIGHT** SW AND CIRCUIT SIDE OF **CAUTION PNL** CB 232CB1. IS CONTINUITY PRESENT?
YES
NO
REPLACE **CAUTION PNL** CB
LOCATE OPEN IN WIRES W557-194-20, W645-138-20, OR W550-58-20 BETWEEN **CAUTION** PNL CB 232CB1 AND **CAUTION LIGHTS DIM/BRIGHT** SW TERM 5. REPAIR OR REPLACE WIRE AS REQUIRED.

END OF TASK

9-18.5 MASTER CAUTION PANEL LIGHTS DO NOT COME ON WHEN BATTERY SWITCH SET TO ON

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

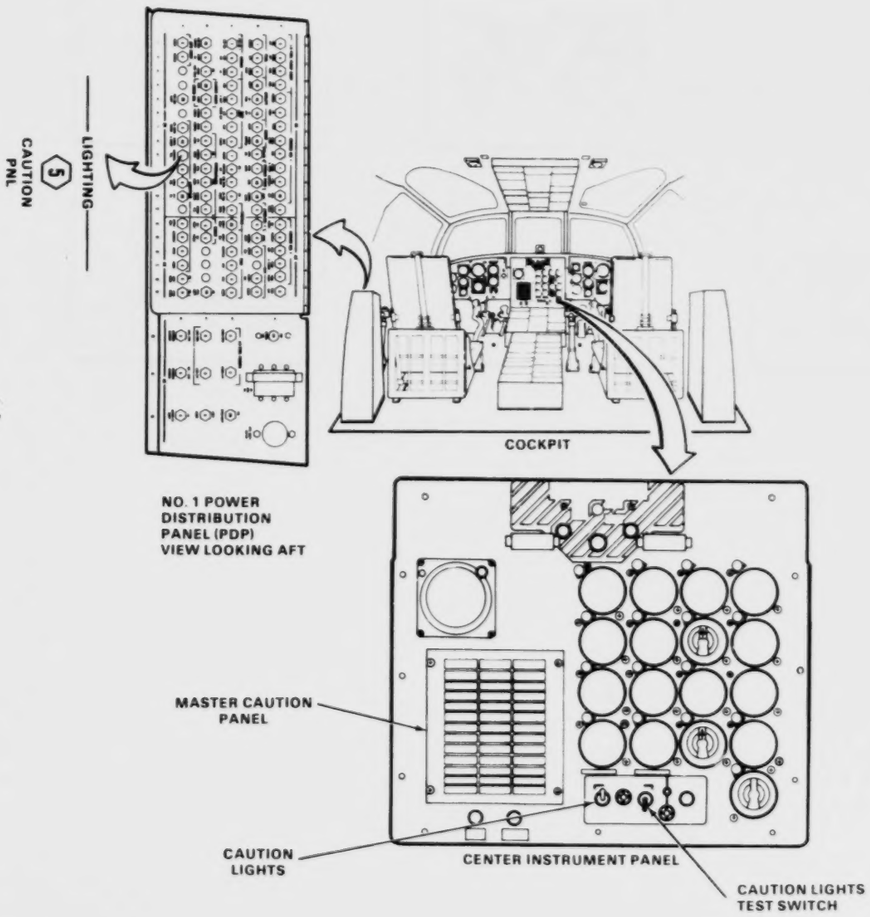
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

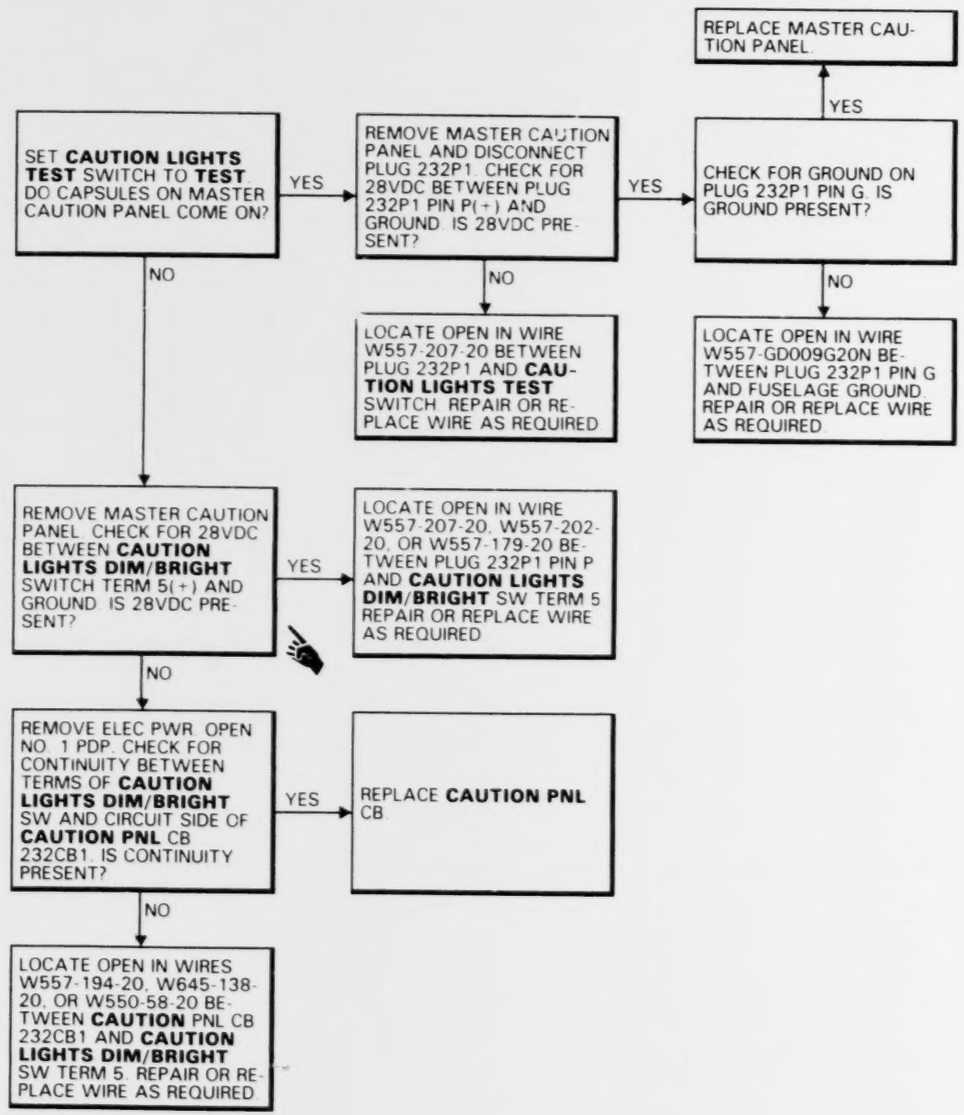
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off




SET **CAUTION LIGHTS TEST** SWITCH TO **TEST**. DO CAPSULES ON MASTER CAUTION PANEL COME ON?
YES
NO
REMOVE MASTER CAUTION PANEL AND DISCONNECT PLUG 232P1. CHECK FOR 28VDC BETWEEN PLUG 232P1 PIN P(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-207-20 BETWEEN PLUG 232P1 AND **CAUTION LIGHTS TEST** SWITCH. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR GROUND ON PLUG 232P1 PIN G. IS GROUND PRESENT?
YES
NO
REPLACE MASTER CAUTION PANEL.
LOCATE OPEN IN WIRE W557-GD009G20N BETWEEN PLUG 232P1 PIN G AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE MASTER CAUTION PANEL. CHECK FOR 28VDC BETWEEN **CAUTION LIGHTS DIM/BRIGHT** SWITCH TERM 5(+) AND GROUND. IS 28VDC PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-207-20, W557-202-20, OR W557-179-20 BETWEEN PLUG 232P1 PIN P AND **CAUTION LIGHTS DIM/BRIGHT** SW TERM 5. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE ELEC PWR. OPEN NO. 1 PDP. CHECK FOR CONTINUITY BETWEEN TERMS OF **CAUTION LIGHTS DIM/BRIGHT** SW AND CIRCUIT SIDE OF **CAUTION PNL** CB 232CB1. IS CONTINUITY PRESENT?
YES
NO
REPLACE **CAUTION PNL** CB.
LOCATE OPEN IN WIRES W557-194-20, W645-138-20, OR W550-58-20 BETWEEN **CAUTION** PNL CB 232CB1 AND **CAUTION LIGHTS DIM/BRIGHT** SW TERM 5. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

9-18.6 PILOT'S OR COPILOT'S MASTER CAUTION LIGHTS DO NOT COME ON WHEN ELECTRICAL POWER IS APPLIED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

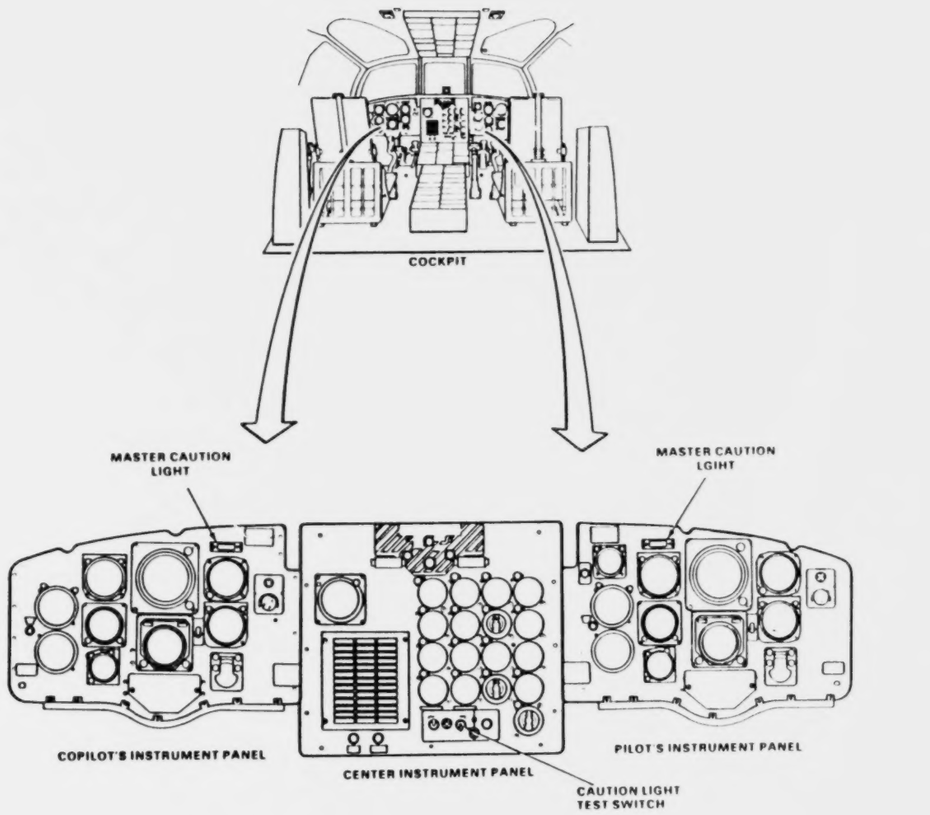
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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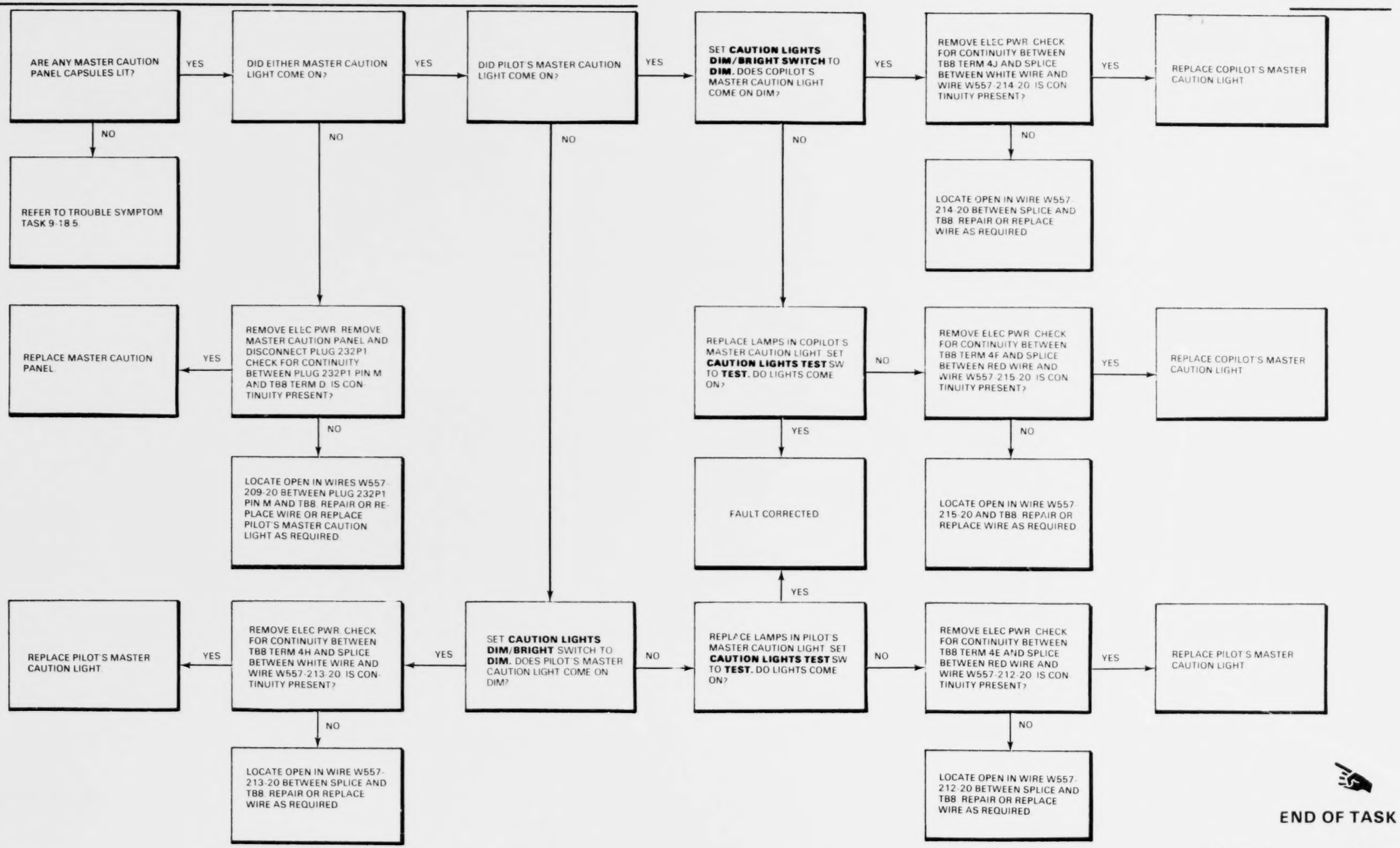
9-18.6 PILOT'S OR COPILOT'S MASTER CAUTION LIGHTS DO NOT COME ON WHEN ELECTRICAL POWER IS APPLIED (Continued)


ARE ANY MASTER CAUTION PANEL CAPSULES LIT?
YES
DID EITHER MASTER CAUTION LIGHT COME ON?
YES
DID PILOT'S MASTER CAUTION LIGHT COME ON?
YES
SET CAUTION LIGHTS DIM/BRIGHT SWITCH TO DIM. DOES COPILOT'S MASTER CAUTION LIGHT COME ON DIM?
YES
REMOVE ELEC PWR. CHECK FOR CONTINUITY BETWEEN TB8 TERM 4J AND SPLICE BETWEEN WHITE WIRE AND WIRE W557-214-20. IS CONTINUITY PRESENT?
YES
REPLACE COPILOT'S MASTER CAUTION LIGHT
NO
LOCATE OPEN IN WIRE W557-214-20 BETWEEN SPLICE AND TB8. REPAIR OR REPLACE WIRE AS REQUIRED
NO
NO
NO
REFER TO TROUBLE SYMPTOM TASK 9-18.5
REPLACE MASTER CAUTION PANEL
YES
REMOVE ELEC PWR. REMOVE MASTER CAUTION PANEL AND DISCONNECT PLUG 232P1. CHECK FOR CONTINUITY BETWEEN PLUG 232P1 PIN M AND TB8 TERM D. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRES W557-209-20 BETWEEN PLUG 232P1 PIN M AND TB8. REPAIR OR REPLACE WIRE OR REPLACE PILOT'S MASTER CAUTION LIGHT AS REQUIRED
REPLACE LAMPS IN COPILOT'S MASTER CAUTION LIGHT. SET CAUTION LIGHTS TEST SW TO TEST. DO LIGHTS COME ON?
NO
REMOVE ELEC PWR. CHECK FOR CONTINUITY BETWEEN TB8 TERM 4F AND SPLICE BETWEEN RED WIRE AND WIRE W557-215-20. IS CONTINUITY PRESENT?
YES
REPLACE COPILOT'S MASTER CAUTION LIGHT
YES
NO
FAULT CORRECTED
LOCATE OPEN IN WIRE W557-215-20 AND TB8. REPAIR OR REPLACE WIRE AS REQUIRED
YES
REPLACE PILOT'S MASTER CAUTION LIGHT
YES
REMOVE ELEC PWR. CHECK FOR CONTINUITY BETWEEN TB8 TERM 4H AND SPLICE BETWEEN WHITE WIRE AND WIRE W557-213-20. IS CONTINUITY PRESENT?
YES
SET CAUTION LIGHTS DIM/BRIGHT SWITCH TO DIM. DOES PILOT'S MASTER CAUTION LIGHT COME ON DIM?
NO
REPLACE LAMPS IN PILOT'S MASTER CAUTION LIGHT. SET CAUTION LIGHTS TEST SW TO TEST. DO LIGHTS COME ON?
NO
REMOVE ELEC PWR. CHECK FOR CONTINUITY BETWEEN TB8 TERM 4E AND SPLICE BETWEEN RED WIRE AND WIRE W557-212-20. IS CONTINUITY PRESENT?
YES
REPLACE PILOT'S MASTER CAUTION LIGHT
NO
NO
LOCATE OPEN IN WIRE W557-213-20 BETWEEN SPLICE AND TB8. REPAIR OR REPLACE WIRE AS REQUIRED
YES
LOCATE OPEN IN WIRE W557-212-20 BETWEEN SPLICE AND TB8. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

9-18.7 MASTER CAUTION PANEL CAPSULES AND MASTER CAUTION LIGHTS ARE DIM WHEN ELECTRICAL POWER APPLIED OR WHEN CAUTION LIGHT SWITCH SET TO BRIGHT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

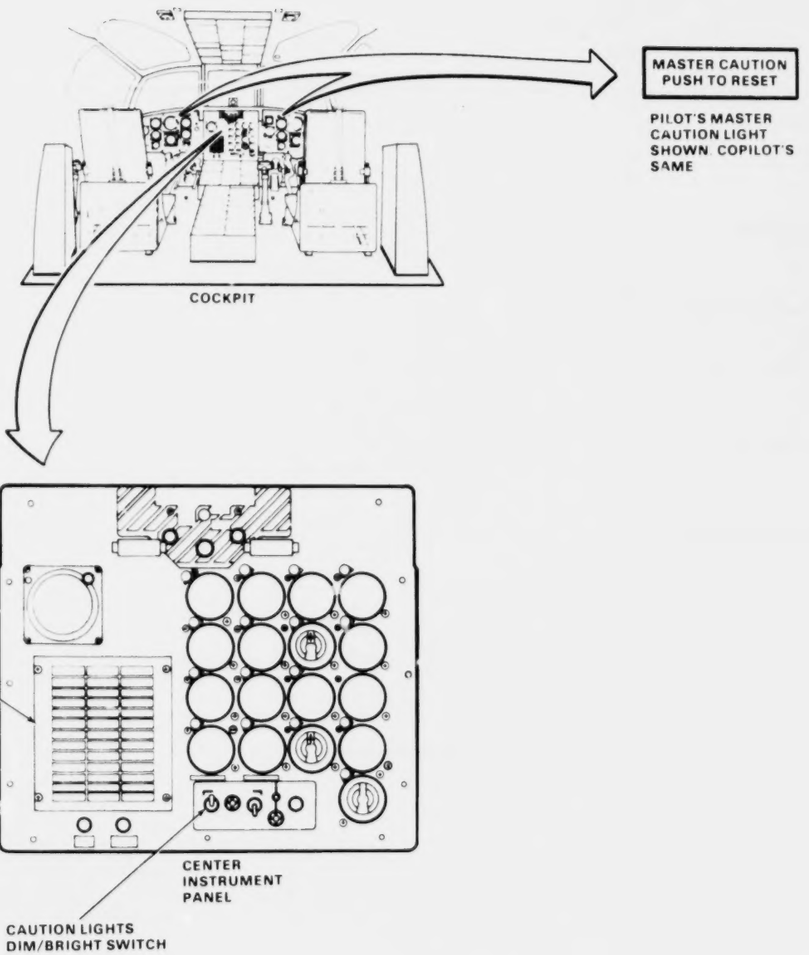
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off



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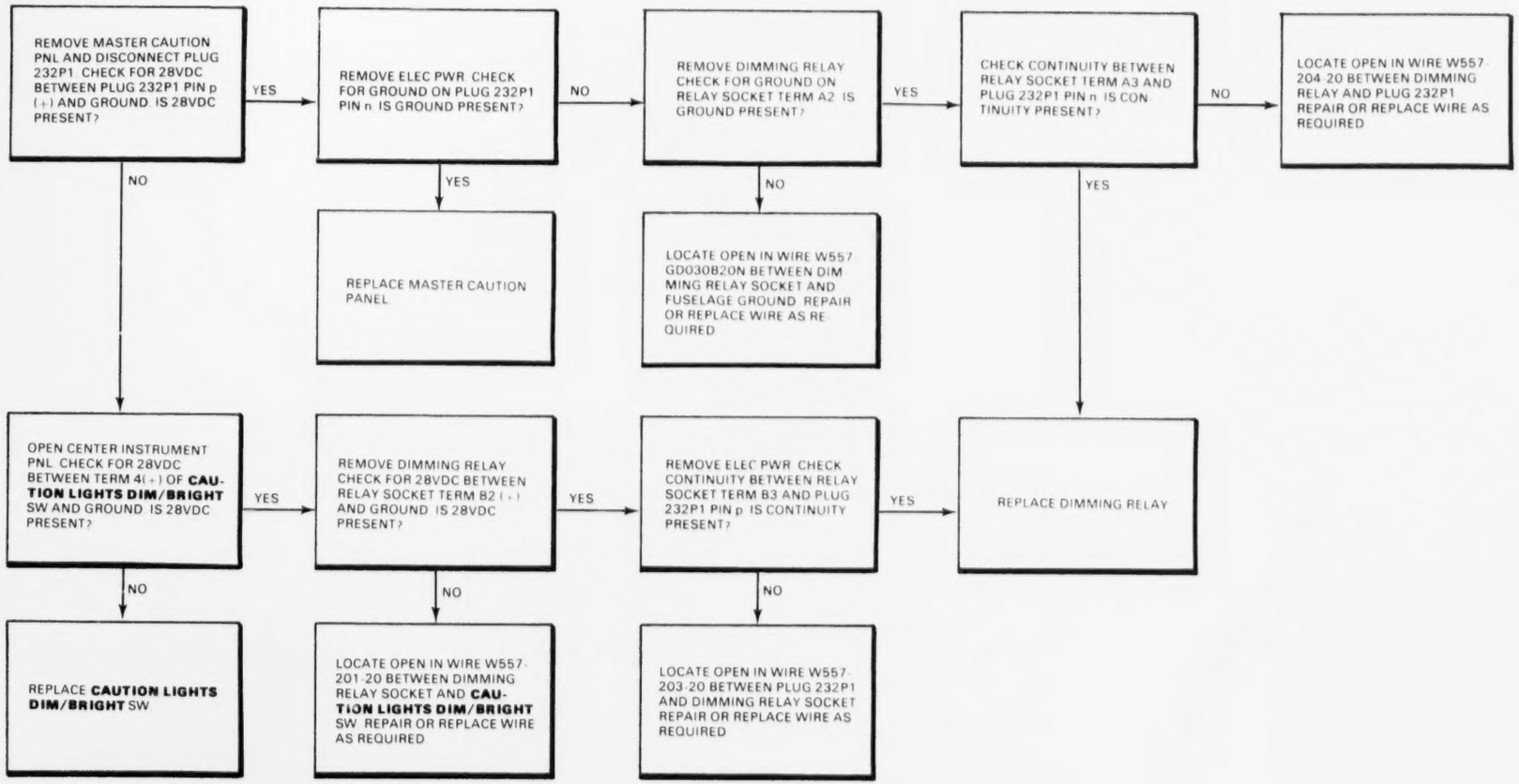
9-18.7 MASTER CAUTION PANEL CAPSULES AND MASTER CAUTION LIGHTS ARE DIM WHEN ELECTRICAL POWER APPLIED OR WHEN CAUTION LIGHT SWITCH SET TO BRIGHT (Continued)


REMOVE MASTER CAUTION PNL AND DISCONNECT PLUG 232P1. CHECK FOR 28VDC BETWEEN PLUG 232P1 PIN p (+) AND GROUND. IS 28VDC PRESENT?
YES
REMOVE ELEC PWR. CHECK FOR GROUND ON PLUG 232P1 PIN n. IS GROUND PRESENT?
NO
REMOVE DIMMING RELAY. CHECK FOR GROUND ON RELAY SOCKET TERM A2. IS GROUND PRESENT?
YES
CHECK CONTINUITY BETWEEN RELAY SOCKET TERM A3 AND PLUG 232P1 PIN n. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W557-204-20 BETWEEN DIMMING RELAY AND PLUG 232P1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE MASTER CAUTION PANEL
YES
LOCATE OPEN IN WIRE W557-GD030B20N BETWEEN DIMMING RELAY SOCKET AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
YES
OPEN CENTER INSTRUMENT PNL. CHECK FOR 28VDC BETWEEN TERM 4(+) OF CAUTION LIGHTS DIM/BRIGHT SW AND GROUND. IS 28VDC PRESENT?
YES
REMOVE DIMMING RELAY. CHECK FOR 28VDC BETWEEN RELAY SOCKET TERM B2 (+) AND GROUND. IS 28VDC PRESENT?
YES
REMOVE ELEC PWR. CHECK CONTINUITY BETWEEN RELAY SOCKET TERM B3 AND PLUG 232P1 PIN p. IS CONTINUITY PRESENT?
YES
REPLACE DIMMING RELAY
NO
REPLACE CAUTION LIGHTS DIM/BRIGHT SW
NO
LOCATE OPEN IN WIRE W557-201-20 BETWEEN DIMMING RELAY SOCKET AND CAUTION LIGHTS DIM/BRIGHT SW. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRE W557-203-20 BETWEEN PLUG 232P1 AND DIMMING RELAY SOCKET. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

9-18.8 PILOT'S AND COPILOT'S MASTER CAUTION LIGHT WILL NOT GO OUT

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

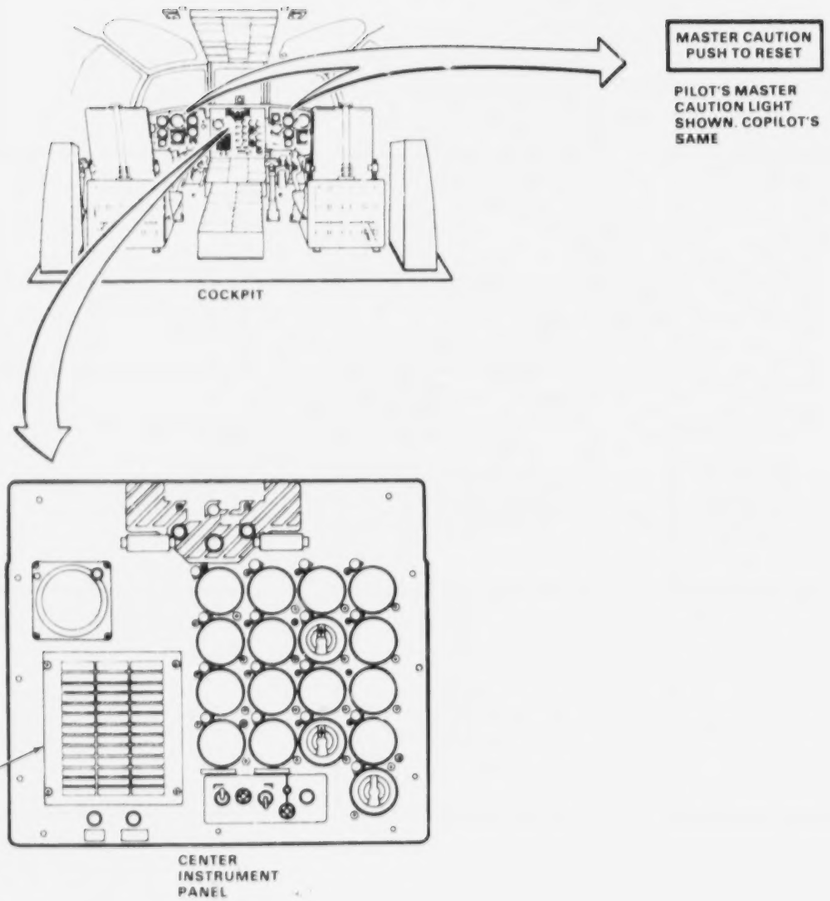
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

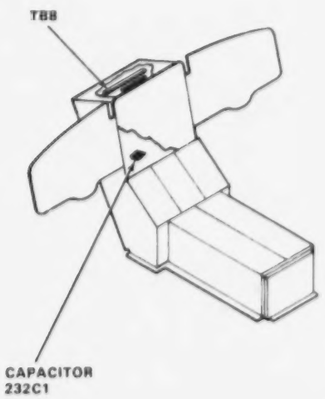
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off





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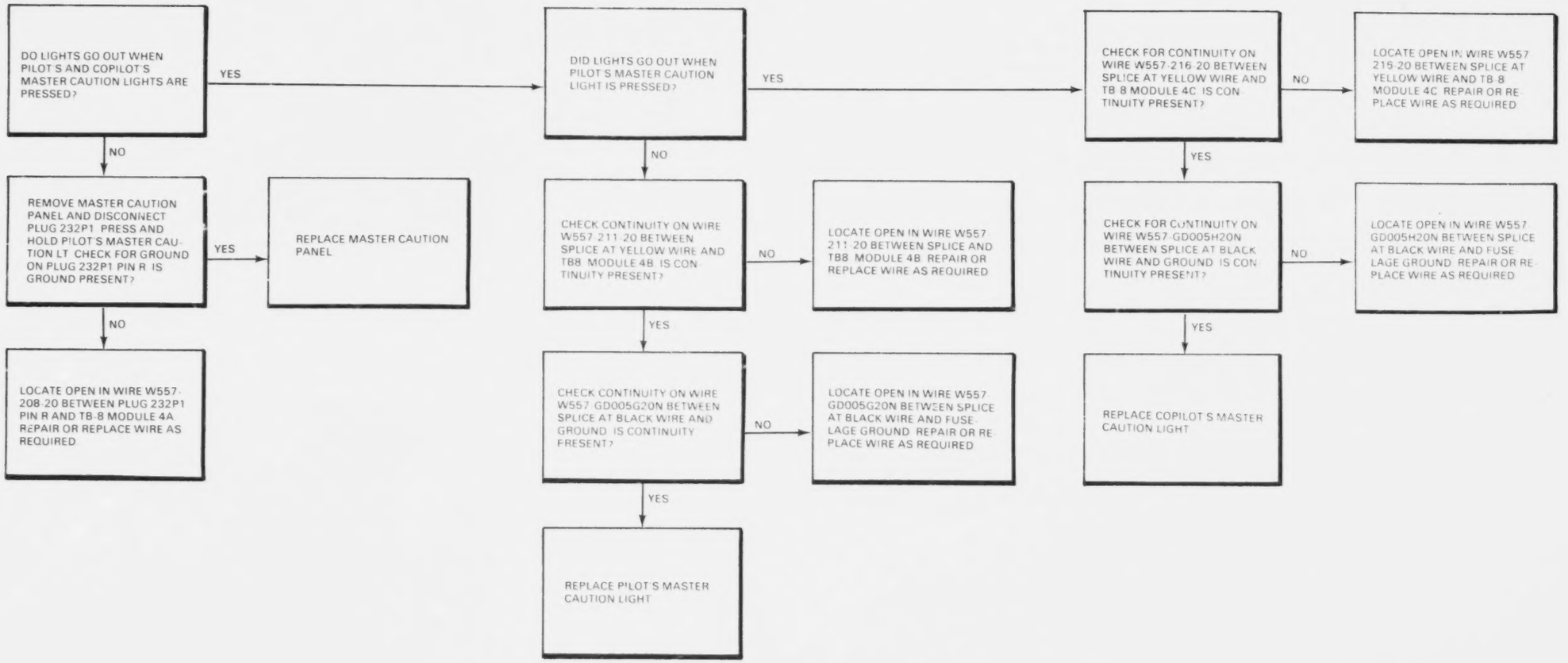
9-18.8 PILOT'S AND COPILOT'S MASTER CAUTION LIGHTS WILL NOT GO OUT (Continued)


DO LIGHTS GO OUT WHEN PILOT'S AND COPILOT'S MASTER CAUTION LIGHTS ARE PRESSED?
YES
NO
REMOVE MASTER CAUTION PANEL AND DISCONNECT PLUG 232P1. PRESS AND HOLD PILOT'S MASTER CAUTION LT. CHECK FOR GROUND ON PLUG 232P1 PIN R. IS GROUND PRESENT?
YES
REPLACE MASTER CAUTION PANEL
NO
LOCATE OPEN IN WIRE W557-208-20 BETWEEN PLUG 232P1 PIN R AND TB-8 MODULE 4A. REPAIR OR REPLACE WIRE AS REQUIRED.
DID LIGHTS GO OUT WHEN PILOT'S MASTER CAUTION LIGHT IS PRESSED?
YES
NO
CHECK CONTINUITY ON WIRE W557-211-20 BETWEEN SPLICE AT YELLOW WIRE AND TB8 MODULE 4B. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W557-211-20 BETWEEN SPLICE AND TB8 MODULE 4B. REPAIR OR REPLACE WIRE AS REQUIRED
YES
CHECK CONTINUITY ON WIRE W557-GD005G20N BETWEEN SPLICE AT BLACK WIRE AND GROUND. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W557-GD005G20N BETWEEN SPLICE AT BLACK WIRE AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE PILOT'S MASTER CAUTION LIGHT
CHECK FOR CONTINUITY ON WIRE W557-216-20 BETWEEN SPLICE AT YELLOW WIRE AND TB-8 MODULE 4C. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W557-215-20 BETWEEN SPLICE AT YELLOW WIRE AND TB-8 MODULE 4C. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
CHECK FOR CONTINUITY ON WIRE W557-GD005H20N BETWEEN SPLICE AT BLACK WIRE AND GROUND. IS CONTINUITY PRESENT?
NO
LOCATE OPEN IN WIRE W557-GD005H20N BETWEEN SPLICE AT BLACK WIRE AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
YES
REPLACE COPILOT'S MASTER CAUTION LIGHT

END OF TASK

9-18.9 LIGHTS DO NOT COME ON WHEN CAUTION LIGHTS TEST SWITCH IS AT TEST

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

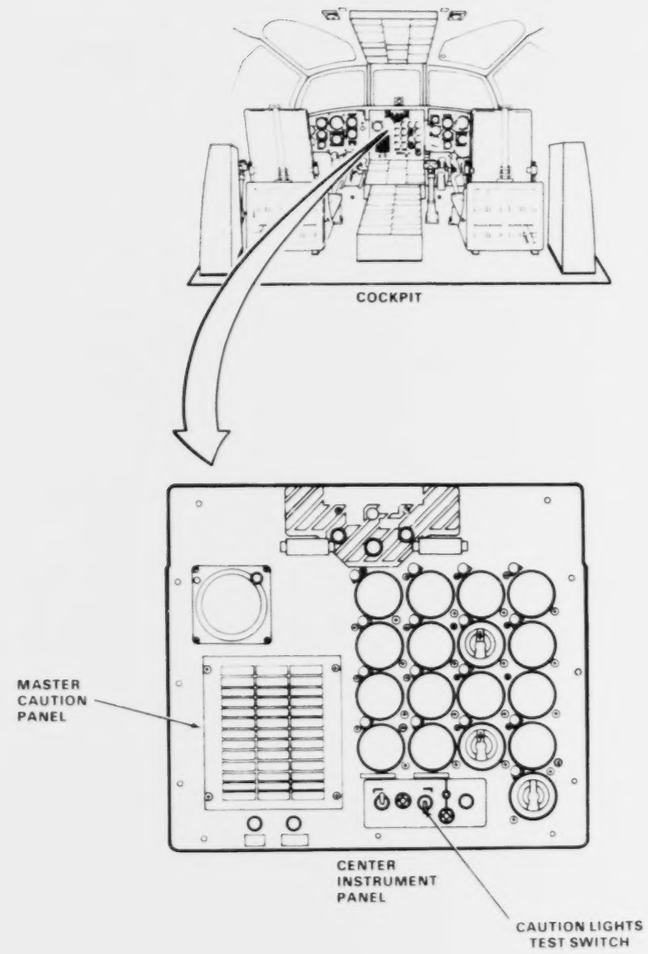
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power Off
Hydraulic Power Off



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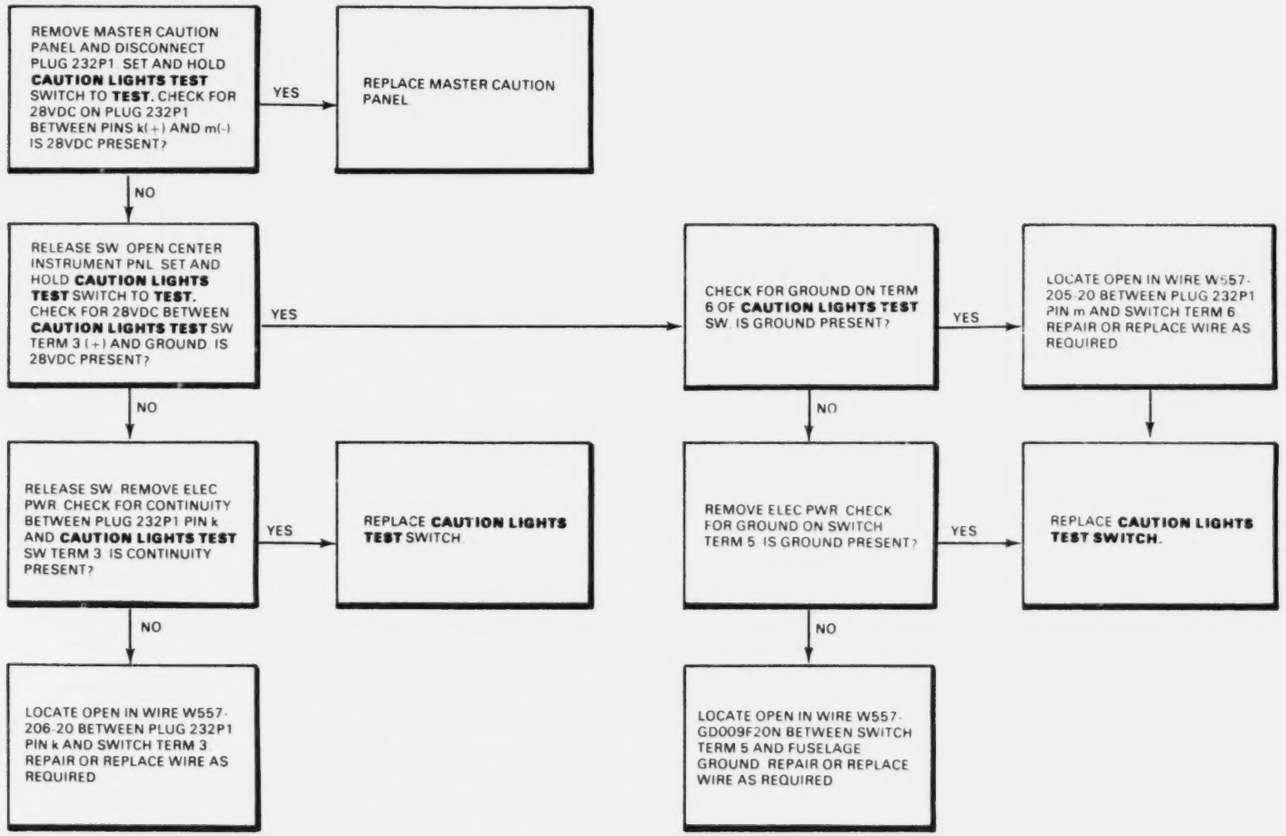
9-18.9 LIGHTS DO NOT COME ON WHEN CAUTION LIGHTS TEST SWITCH IS AT TEST (Continued)


REMOVE MASTER CAUTION PANEL AND DISCONNECT PLUG 232P1. SET AND HOLD **CAUTION LIGHTS TEST** SWITCH TO **TEST**. CHECK FOR 28VDC ON PLUG 232P1 BETWEEN PINS k(+) AND m(-) IS 28VDC PRESENT?
YES
REPLACE MASTER CAUTION PANEL.
NO
RELEASE SW. OPEN CENTER INSTRUMENT PNL. SET AND HOLD **CAUTION LIGHTS TEST** SWITCH TO **TEST**. CHECK FOR 28VDC BETWEEN **CAUTION LIGHTS TEST** SW TERM 3 (+) AND GROUND. IS 28VDC PRESENT?
YES
CHECK FOR GROUND ON TERM 6 OF **CAUTION LIGHTS TEST** SW. IS GROUND PRESENT?
YES
LOCATE OPEN IN WIRE W557-205-20 BETWEEN PLUG 232P1 PIN m AND SWITCH TERM 6. REPAIR OR REPLACE WIRE AS REQUIRED
NO
RELEASE SW. REMOVE ELEC PWR. CHECK FOR CONTINUITY BETWEEN PLUG 232P1 PIN k AND **CAUTION LIGHTS TEST** SW TERM 3. IS CONTINUITY PRESENT?
YES
REPLACE **CAUTION LIGHTS TEST** SWITCH.
NO
LOCATE OPEN IN WIRE W557-206-20 BETWEEN PLUG 232P1 PIN k AND SWITCH TERM 3. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REMOVE ELEC PWR. CHECK FOR GROUND ON SWITCH TERM 5. IS GROUND PRESENT?
YES
REPLACE **CAUTION LIGHTS TEST SWITCH.**
NO
LOCATE OPEN IN WIRE W557-GD009F20N BETWEEN SWITCH TERM 5 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED

END OF TASK

9-18.10 MASTER CAUTION PANEL LIGHTS OR MASTER CAUTION LIGHTS WILL NOT DIM

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

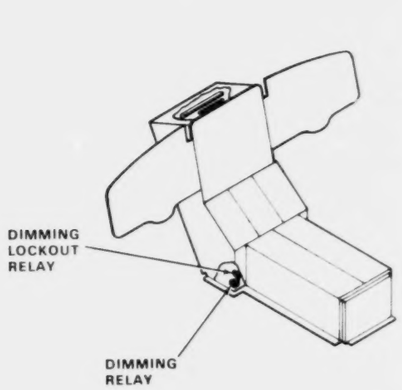
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

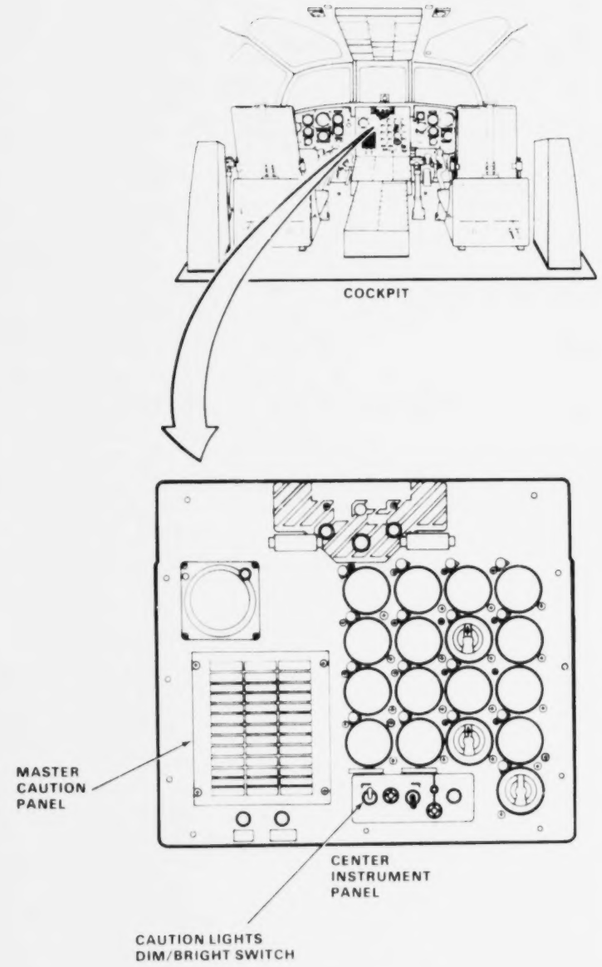
Materials:
None

Personnel Required:
Aircraft Electrician (2)

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power Off
Hydraulic Power Off
L.H. Forward Console Cover Removed
Console Lighting Panel Lowered





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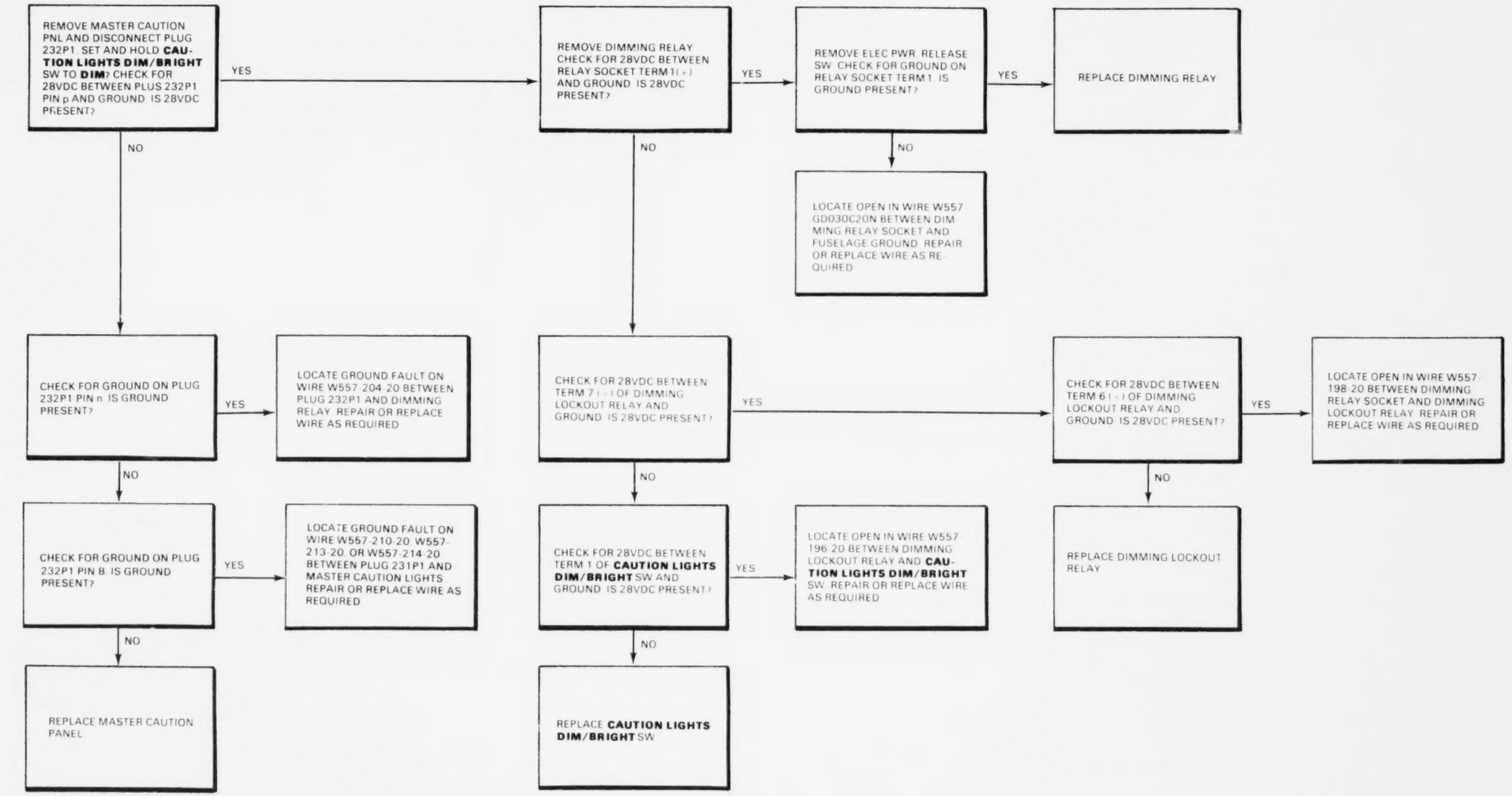
9-18.10 MASTER CAUTION PANEL LIGHTS OR MASTER CAUTION LIGHTS WILL NOT DIM (Continued)


REMOVE MASTER CAUTION PNL AND DISCONNECT PLUG 232P1. SET AND HOLD **CAUTION LIGHTS DIM/BRIGHT** SW TO **DIM**? CHECK FOR 28VDC BETWEEN PLUS 232P1 PIN p AND GROUND. IS 28VDC PRESENT?
YES
NO
REMOVE DIMMING RELAY. CHECK FOR 28VDC BETWEEN RELAY SOCKET TERM 1 (+) AND GROUND. IS 28VDC PRESENT?
YES
NO
REMOVE ELEC PWR RELEASE SW. CHECK FOR GROUND ON RELAY SOCKET TERM 1. IS GROUND PRESENT?
YES
NO
REPLACE DIMMING RELAY
LOCATE OPEN IN WIRE W557-GD030C20N BETWEEN DIMMING RELAY SOCKET AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR GROUND ON PLUG 232P1 PIN n. IS GROUND PRESENT?
YES
NO
LOCATE GROUND FAULT ON WIRE W557-204-20 BETWEEN PLUG 232P1 AND DIMMING RELAY. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR GROUND ON PLUG 232P1 PIN B. IS GROUND PRESENT?
YES
NO
LOCATE GROUND FAULT ON WIRE W557-210-20, W557-213-20, OR W557-214-20 BETWEEN PLUG 231P1 AND MASTER CAUTION LIGHTS. REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE MASTER CAUTION PANEL
CHECK FOR 28VDC BETWEEN TERM 7 (+) OF DIMMING LOCKOUT RELAY AND GROUND. IS 28VDC PRESENT?
YES
NO
CHECK FOR 28VDC BETWEEN TERM 1 OF **CAUTION LIGHTS DIM/BRIGHT** SW AND GROUND. IS 28VDC PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-196-20 BETWEEN DIMMING LOCKOUT RELAY AND **CAUTION LIGHTS DIM/BRIGHT** SW. REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE **CAUTION LIGHTS DIM/BRIGHT** SW
CHECK FOR 28VDC BETWEEN TERM 6 (+) OF DIMMING LOCKOUT RELAY AND GROUND. IS 28VDC PRESENT?
YES
NO
LOCATE OPEN IN WIRE W557-198-20 BETWEEN DIMMING RELAY SOCKET AND DIMMING LOCKOUT RELAY. REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE DIMMING LOCKOUT RELAY

END OF TASK

9-18.11 MASTER CAUTION PANEL LIGHTS DO NOT GO BRIGHT WHEN DOME SELECT SWITCH SET TO WHITE

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

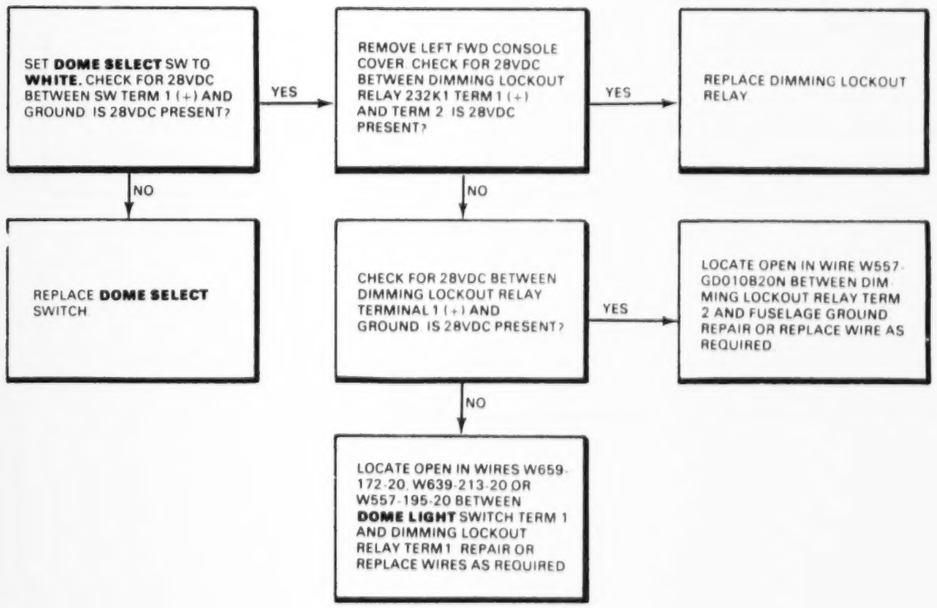
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

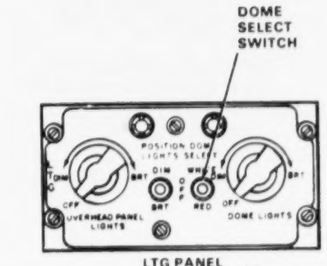
Materials:
None

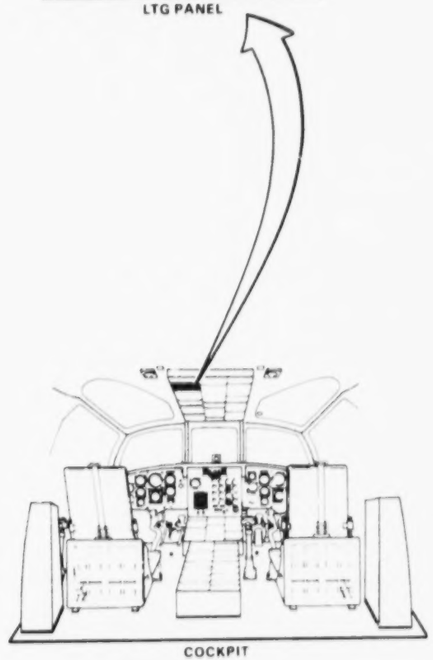
Personnel Required:
68F10 Aircraft Electrician
68F20 Aircraft Electrician

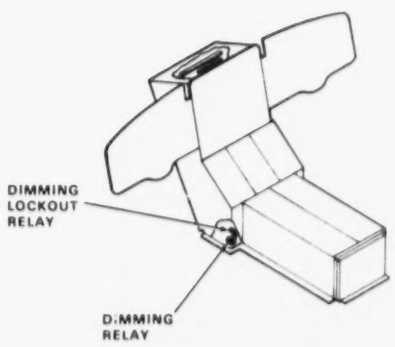
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
LTG Panel Lowered From Overhead Panel
Battery Connected
Electrical Power On
Hydraulic Power Off


SET **DOME SELECT** SW TO **WHITE**. CHECK FOR 28VDC BETWEEN SW TERM 1 (+) AND GROUND. IS 28VDC PRESENT?
YES
REMOVE LEFT FWD CONSOLE COVER. CHECK FOR 28VDC BETWEEN DIMMING LOCKOUT RELAY 232K1 TERM 1 (+) AND TERM 2. IS 28VDC PRESENT?
YES
REPLACE DIMMING LOCKOUT RELAY
NO
REPLACE **DOME SELECT** SWITCH
NO
CHECK FOR 28VDC BETWEEN DIMMING LOCKOUT RELAY TERMINAL 1 (+) AND GROUND. IS 28VDC PRESENT?
YES
LOCATE OPEN IN WIRE W557-GD010B20N BETWEEN DIMMING LOCKOUT RELAY TERM 2 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE OPEN IN WIRES W659-172-20, W639-213-20 OR W557-195-20 BETWEEN **DOME LIGHT** SWITCH TERM 1 AND DIMMING LOCKOUT RELAY TERM 1. REPAIR OR REPLACE WIRES AS REQUIRED







END OF TASK

9-18.12 BOTH MASTER CAUTION LIGHTS ARE ON BUT ONE IS BRIGHT AND ONE IS DIM

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

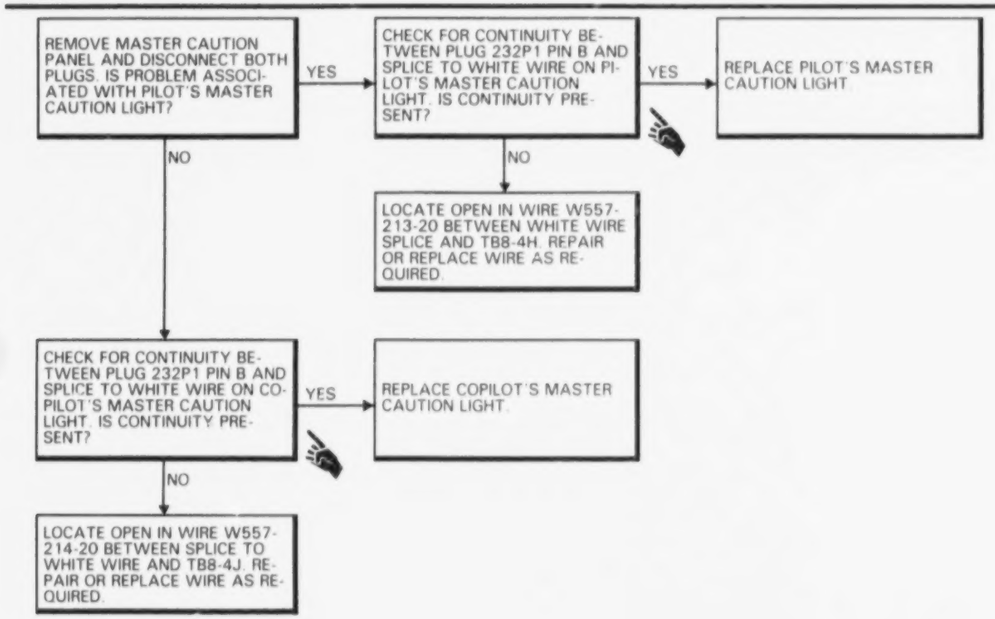
Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

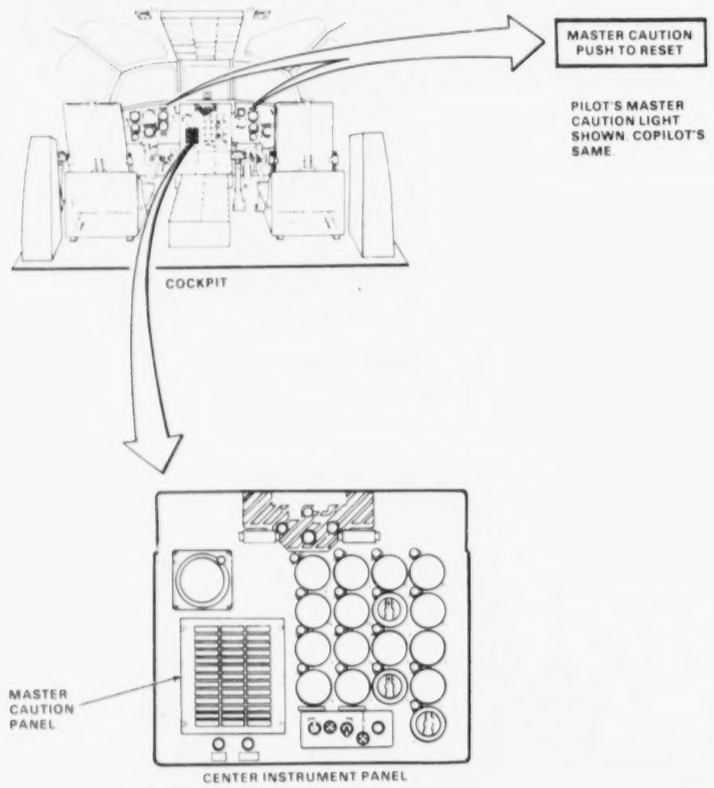
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off


REMOVE MASTER CAUTION PANEL AND DISCONNECT BOTH PLUGS. IS PROBLEM ASSOCIATED WITH PILOT'S MASTER CAUTION LIGHT?
YES
CHECK FOR CONTINUITY BETWEEN PLUG 232P1 PIN B AND SPLICE TO WHITE WIRE ON PILOT'S MASTER CAUTION LIGHT. IS CONTINUITY PRESENT?
YES
REPLACE PILOT'S MASTER CAUTION LIGHT.
NO
NO
LOCATE OPEN IN WIRE W557-213-20 BETWEEN WHITE WIRE SPLICE AND TB8-4H. REPAIR OR REPLACE WIRE AS REQUIRED.
CHECK FOR CONTINUITY BETWEEN PLUG 232P1 PIN B AND SPLICE TO WHITE WIRE ON COPILOT'S MASTER CAUTION LIGHT. IS CONTINUITY PRESENT?
YES
REPLACE COPILOT'S MASTER CAUTION LIGHT.
NO
LOCATE OPEN IN WIRE W557-214-20 BETWEEN SPLICE TO WHITE WIRE AND TB8-4J. REPAIR OR REPLACE WIRE AS REQUIRED.



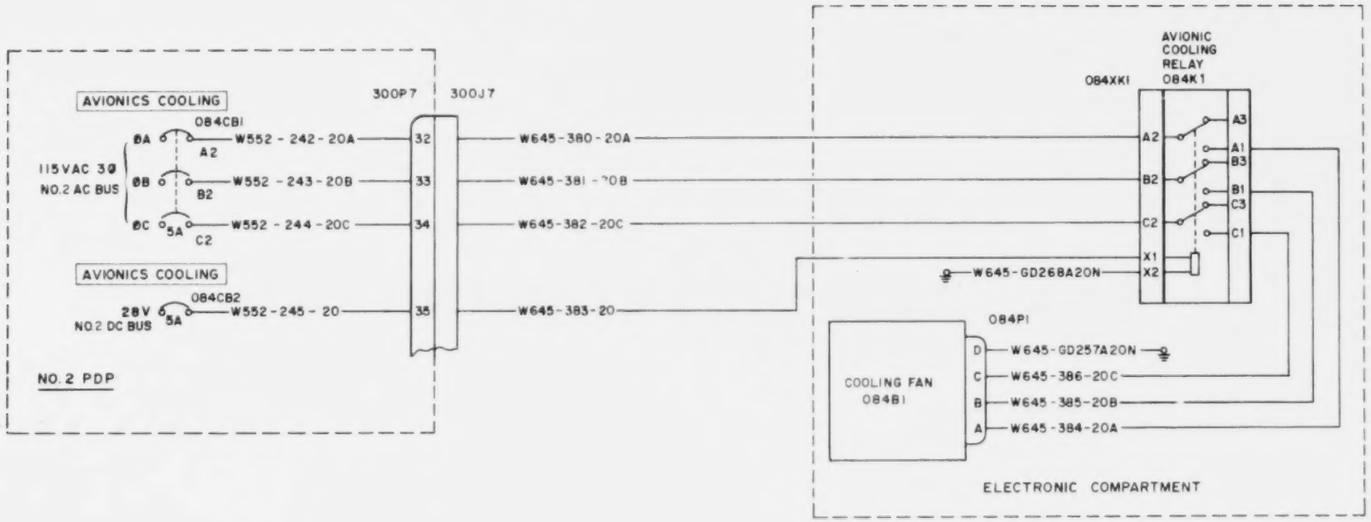
1861

END OF TASK

9-19 AVIONICS COOLING FAN

9-19 AVIONICS COOLING FAN

9-19.1 AVIONICS COOLING FAN WIRING DIAGRAM



90x54

DI45-7120-SPA

9-19.2 AVIONICS COOLING FAN VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

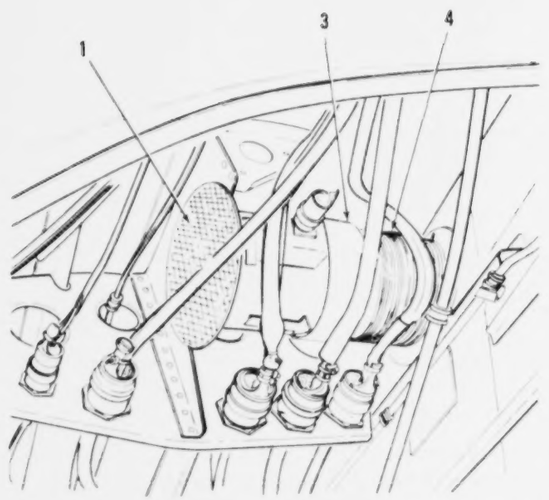
Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Electronic Compartment Acoustic Blanket Removed
Forward Transmission Drip Pan Removed

TASK	RESULT
1. **Check cooling fan inlet screen (1).**	If screen (1) is clogged, clean it.
2. **Check cooling fan outlet (2).**	Remove any debris found in cooling fan outlet (2).
3. **Check cooling fan (3).**	If cooling fan (1) is loose or damaged, tighten or replace it as required. If electrical connector or wiring to connector is damaged, replace it.
4. **Check fan duct (4).**	If fan duct (2) is torn or loose, tighten or replace it as required.
5. **Check fan relay (5).**	If fan relay (3) is loose or damaged, tighten or replace it as required.

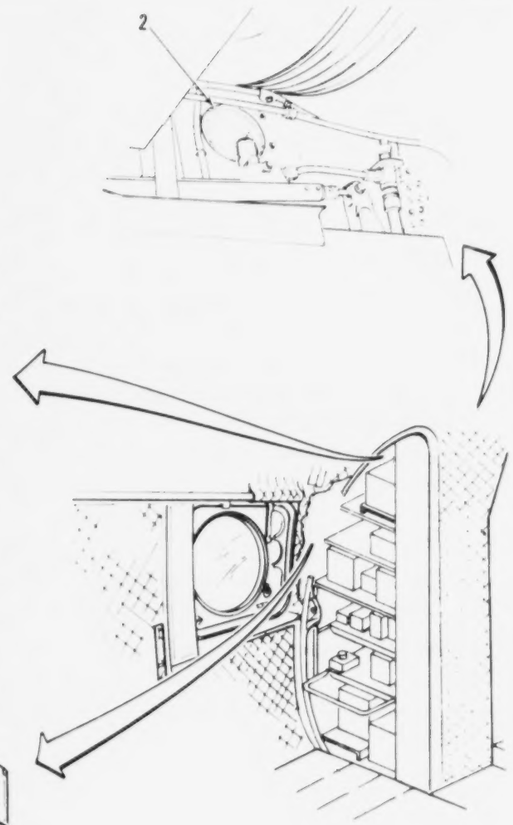
FOLLOW-ON MAINTENANCE:

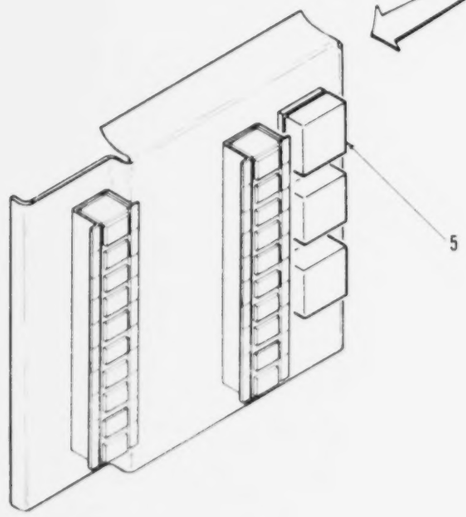
TM 55-1520-240-23:

Electronic compartment acoustic blanket installed.



VIEW LOOKING UP AND INBOARD AT STA 107, WL 50.6





0149-7640-SP4

END OF TASK

9-19.3 AVIONIC COOLING FAN OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
None

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Visual Check of Avionic Cooling Fan Performed (Task 9-19.2)

TASK	RESULT
1. **Check** that **AVIONIC COOLING DC circuit breaker (1)** is closed.	If AVIONIC COOLING circuit breaker (1) is open, close it. If it opens again, go to task 9-19.4.
2. **Check** that **AVIONIC COOLING AC circuit breaker (2)** is closed.	If AVIONIC COOLING circuit breaker (2) is open, close it. If it opens again, go to task 9-19.5.
CAUTION **Do not place hand into discharge port. Injury to hand could occur.**	
3. **Place hand near discharge port (3).**	Strong flow of air should be felt. If weak flow or no flow is felt, go to task 9-19.6.

FOLLOW-ON MAINTENANCE:

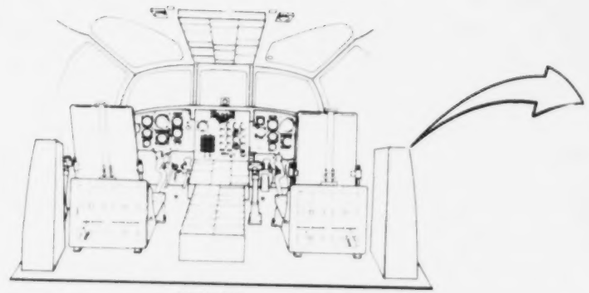
TM 55-1520-240-23:

Battery disconnected.

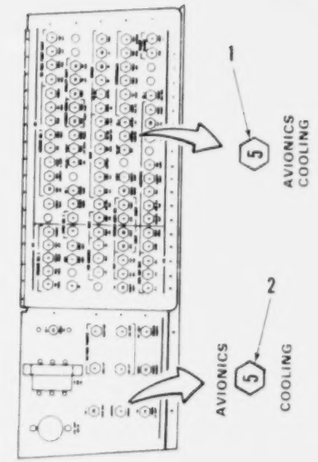
Electrical power off.

Hydraulic power off.

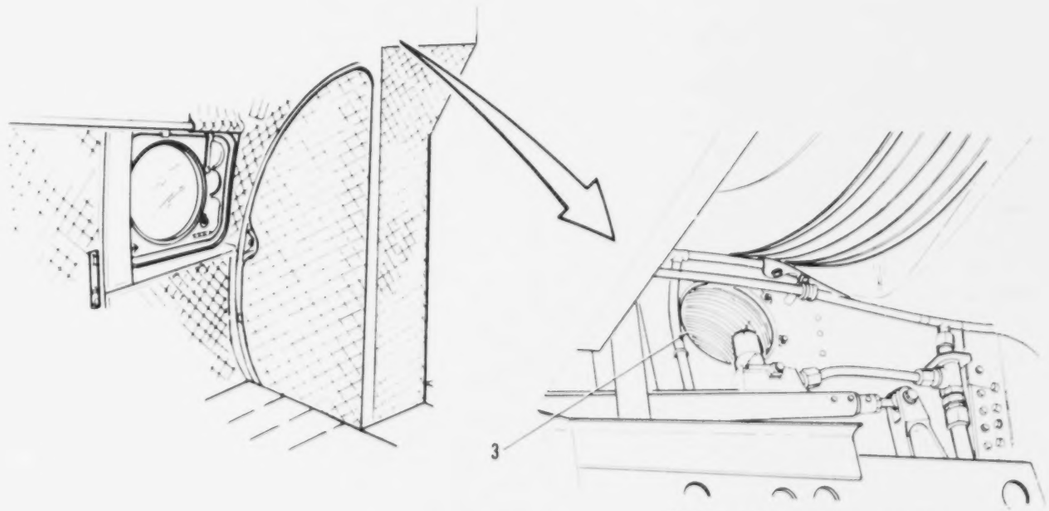
Forward Transmission Drip Pan Installed.



COCKPIT



NO 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT



AVIONIC COOLER DISCHARGE PORT
STA 107 WL +50.6

45x54

END OF TASK

9-19.4 AVIONIC COOLING FAN DC CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

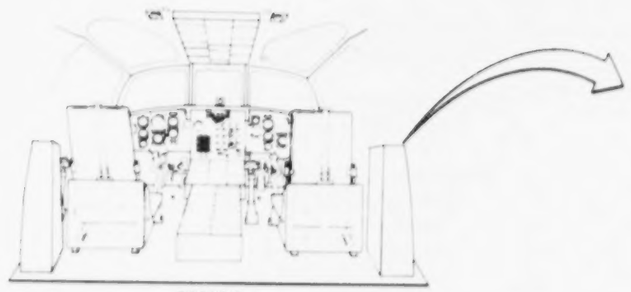
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

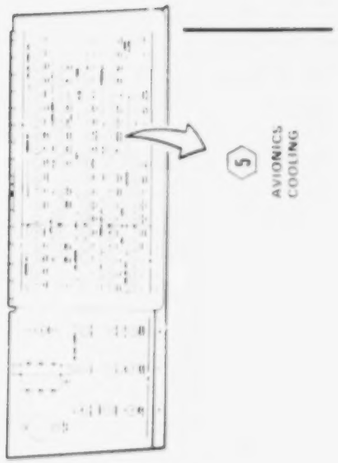
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

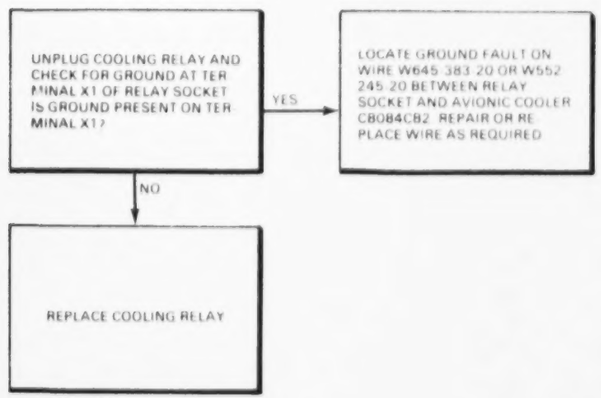
References:
TM 55-1520-240-23

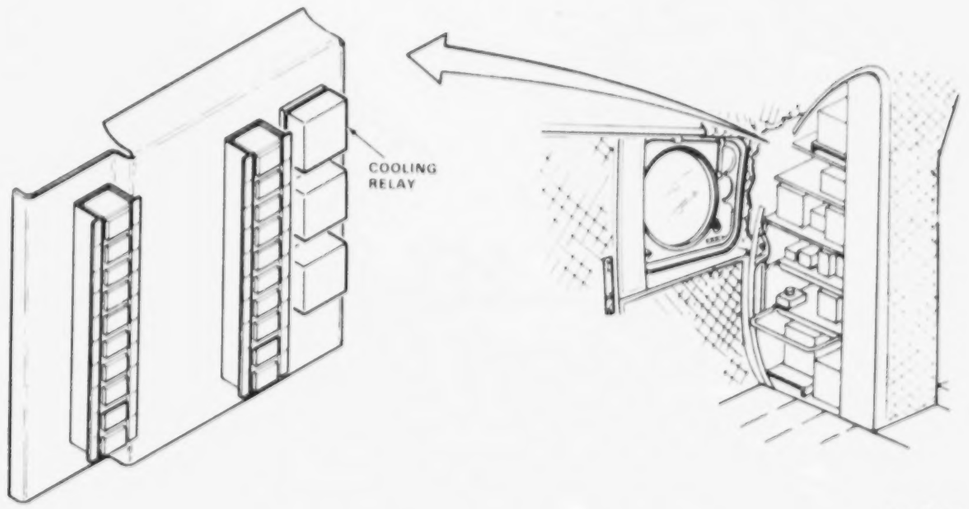
Equipment Condition:
TM 55-1520-240-23
Battery Disconnected
Electrical Power Off
Hydraulic Power Off
Electronic Compartment Acoustic Blanket Removed





NO 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT


UNPLUG COOLING RELAY AND CHECK FOR GROUND AT TERMINAL X1 OF RELAY SOCKET IS GROUND PRESENT ON TERMINAL X1?
YES
LOCATE GROUND FAULT ON WIRE W645-383-20 OR W552-245-20 BETWEEN RELAY SOCKET AND AVIONIC COOLER CB084CB2. REPAIR OR REPLACE WIRE AS REQUIRED
NO
REPLACE COOLING RELAY



45x54

D145-7642-SP6

END OF TASK

9-19.5 AVIONIC COOLING AC CIRCUIT BREAKER WILL NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

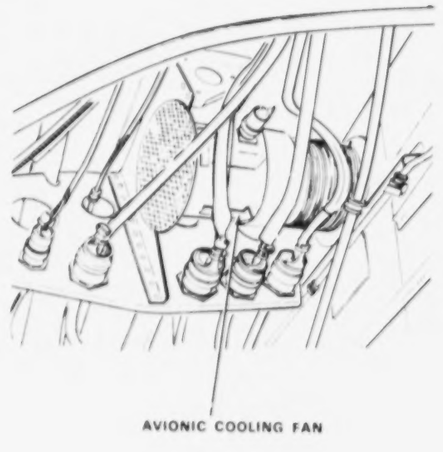
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter
Wood Dowel, 1-Inch X 16-Inches

Materials:
None

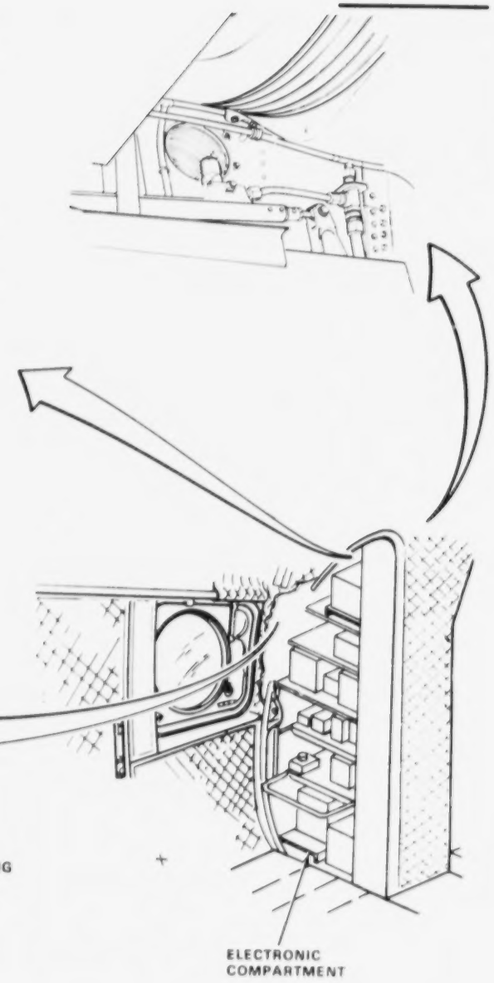
Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

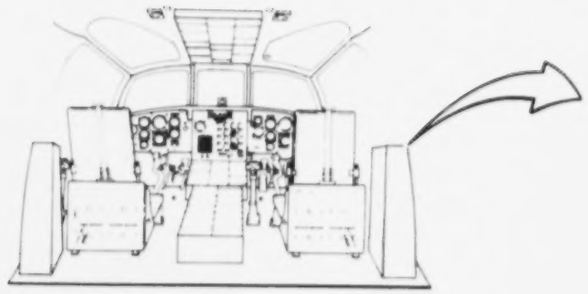


AVIONIC COOLING FAN

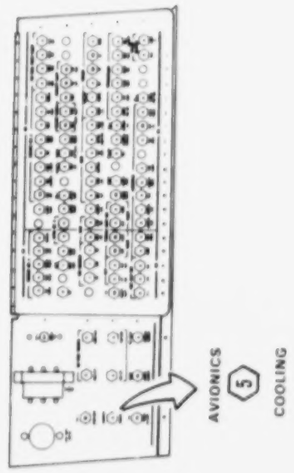


COOLING RELAY

ELECTRONIC COMPARTMENT



COCKPIT



NO. 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT

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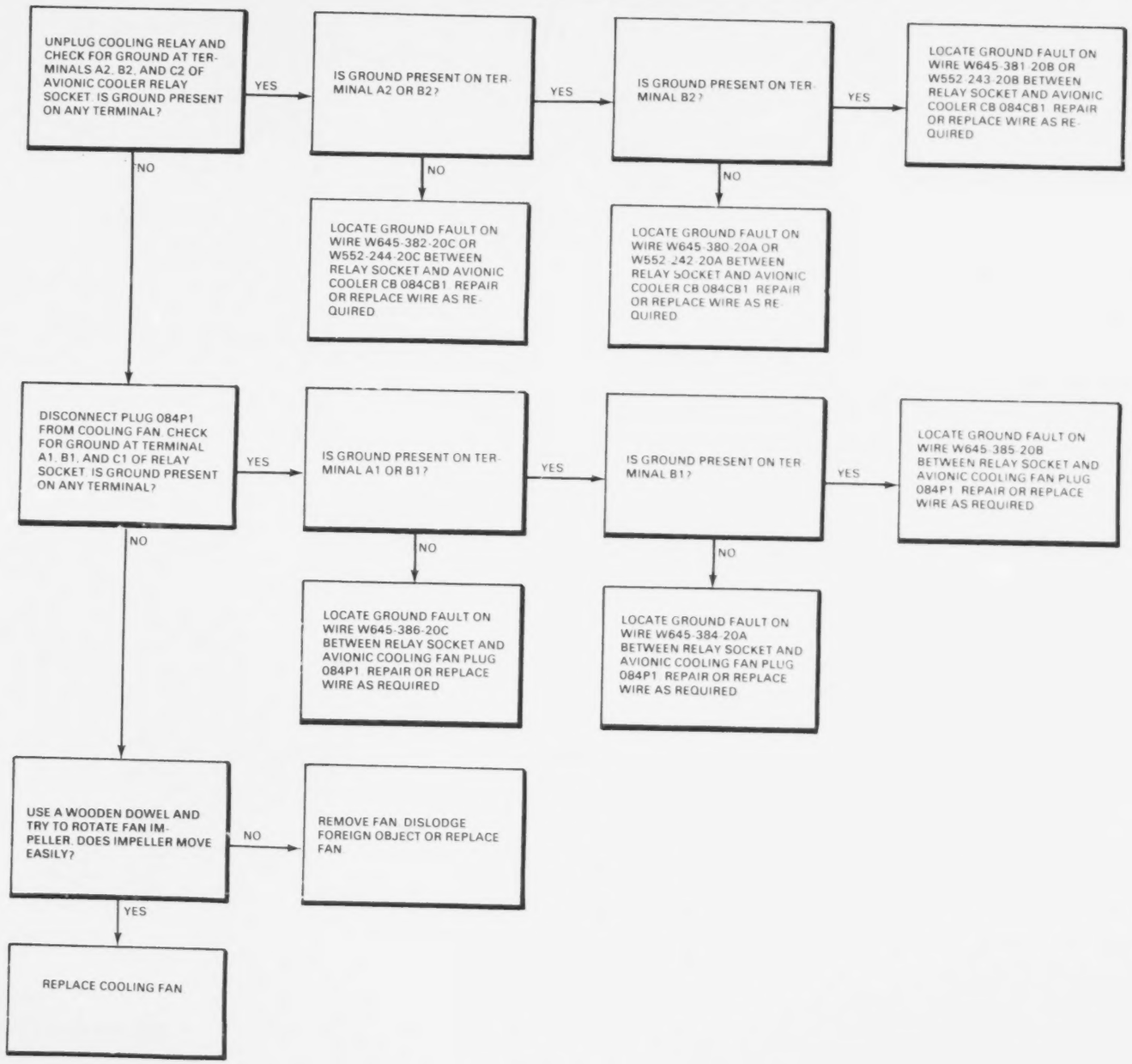
0145-7645-SPA

GO TO NEXT PAGE

9-19.5 AVIONIC COOLING FAN AC CIRCUIT BREAKER WILL NOT STAY CLOSED (Continued)


UNPLUG COOLING RELAY AND CHECK FOR GROUND AT TERMINALS A2, B2, AND C2 OF AVIONIC COOLER RELAY SOCKET. IS GROUND PRESENT ON ANY TERMINAL?
YES
IS GROUND PRESENT ON TERMINAL A2 OR B2?
YES
IS GROUND PRESENT ON TERMINAL B2?
YES
LOCATE GROUND FAULT ON WIRE W645-381-20B OR W552-243-20B BETWEEN RELAY SOCKET AND AVIONIC COOLER CB 084CB1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE GROUND FAULT ON WIRE W645-382-20C OR W552-244-20C BETWEEN RELAY SOCKET AND AVIONIC COOLER CB 084CB1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE GROUND FAULT ON WIRE W645-380-20A OR W552-242-20A BETWEEN RELAY SOCKET AND AVIONIC COOLER CB 084CB1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
DISCONNECT PLUG 084P1 FROM COOLING FAN. CHECK FOR GROUND AT TERMINAL A1, B1, AND C1 OF RELAY SOCKET. IS GROUND PRESENT ON ANY TERMINAL?
YES
IS GROUND PRESENT ON TERMINAL A1 OR B1?
YES
IS GROUND PRESENT ON TERMINAL B1?
YES
LOCATE GROUND FAULT ON WIRE W645-385-20B BETWEEN RELAY SOCKET AND AVIONIC COOLING FAN PLUG 084P1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE GROUND FAULT ON WIRE W645-386-20C BETWEEN RELAY SOCKET AND AVIONIC COOLING FAN PLUG 084P1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
LOCATE GROUND FAULT ON WIRE W645-384-20A BETWEEN RELAY SOCKET AND AVIONIC COOLING FAN PLUG 084P1. REPAIR OR REPLACE WIRE AS REQUIRED
NO
USE A WOODEN DOWEL AND TRY TO ROTATE FAN IMPELLER. DOES IMPELLER MOVE EASILY?
NO
REMOVE FAN. DISLODGE FOREIGN OBJECT OR REPLACE FAN
YES
REPLACE COOLING FAN

END OF TASK

9-19.6 WEAK OR NO AIR FLOW IS FELT FROM AVIONIC COOLING FAN

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

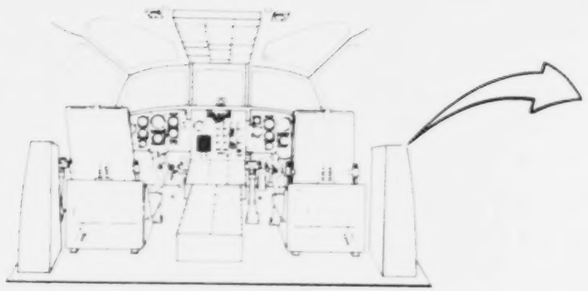
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

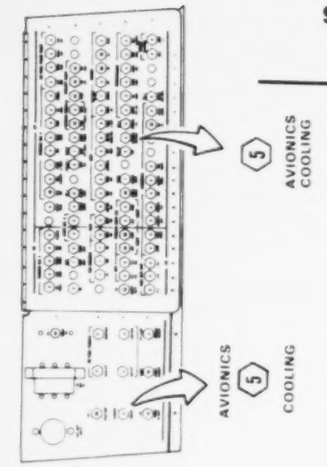
Material:
None

Personnel Required:
68F20 Aircraft Electrician

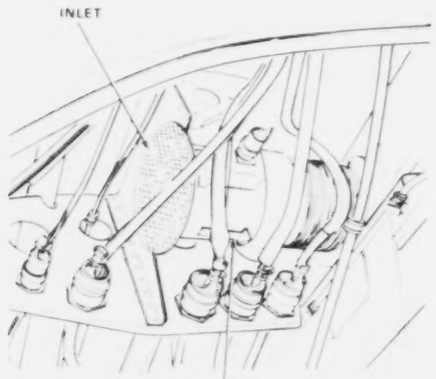
References:
TM 55-1520-240-23

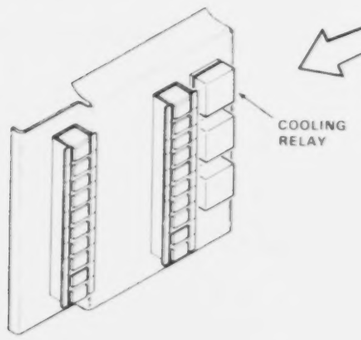
Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Electronic Compartment Acoustic Blanket Removed

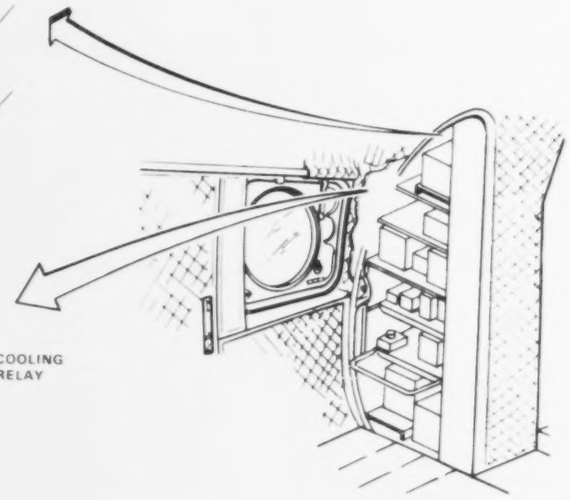




NO. 2 POWER DISTRIBUTION PANEL (PDP) VIEW LOOKING AFT







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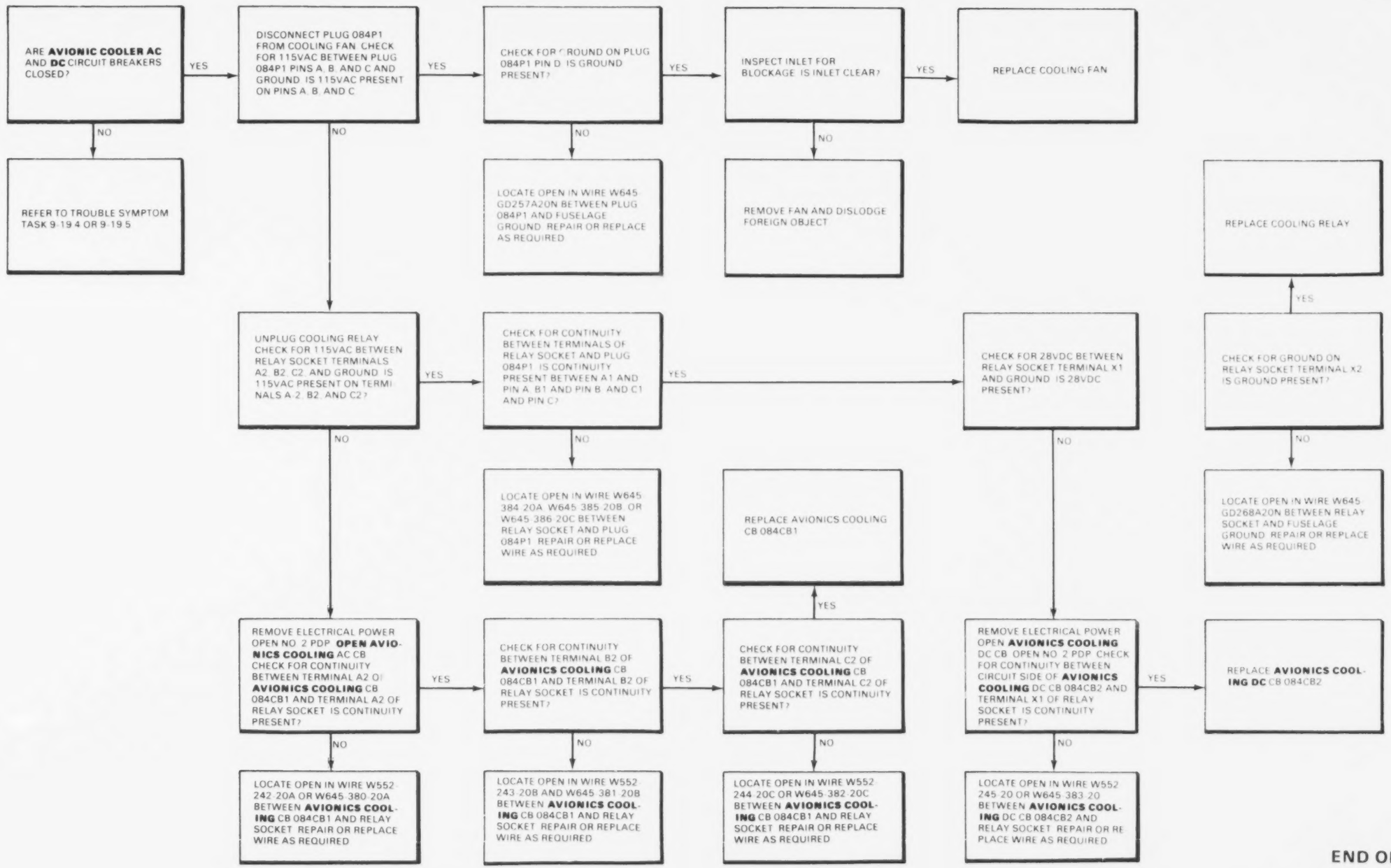
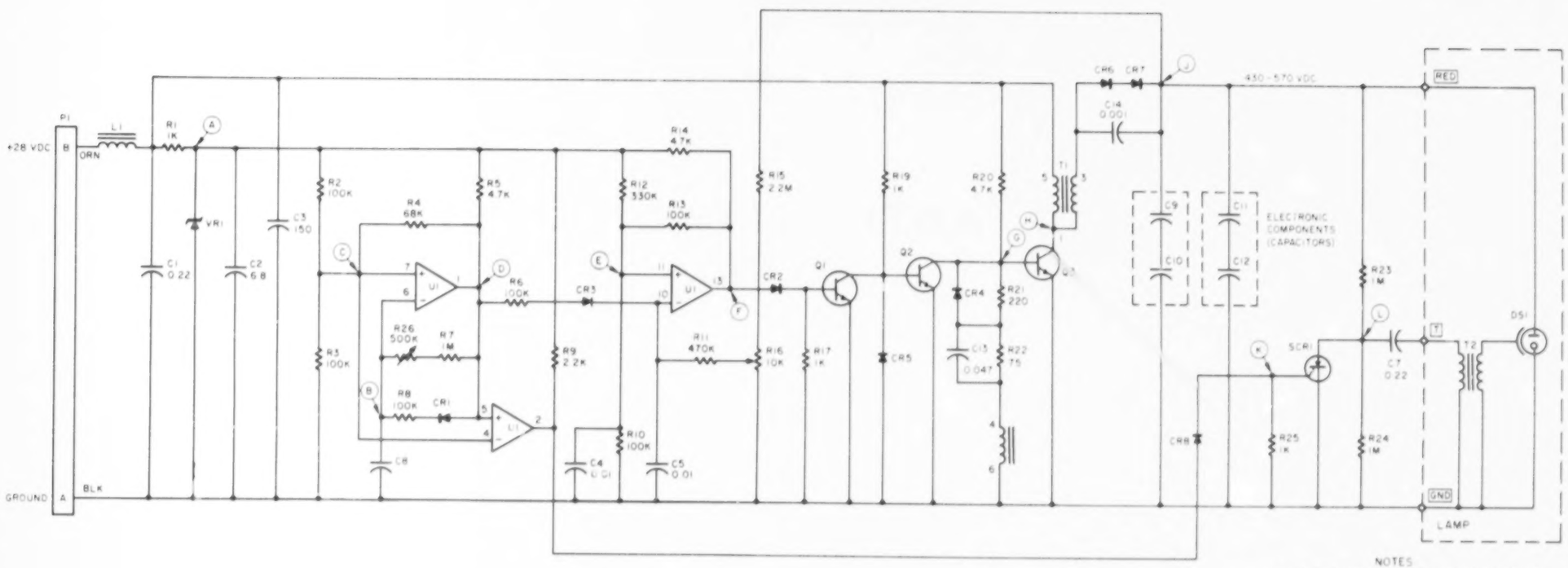
9-19.6 WEAK OR NO AIR FLOW IS FELT FROM AVIONIC COOLING FAN (Continued)


ARE **AVIONIC COOLER AC** AND **DC** CIRCUIT BREAKERS CLOSED?
YES
NO
REFER TO TROUBLE SYMPTOM TASK 9-19.4 OR 9-19.5
DISCONNECT PLUG 084P1 FROM COOLING FAN. CHECK FOR 115VAC BETWEEN PLUG 084P1 PINS A, B, AND C AND GROUND. IS 115VAC PRESENT ON PINS A, B, AND C
YES
NO
CHECK FOR GROUND ON PLUG 084P1 PIN D. IS GROUND PRESENT?
YES
NO
LOCATE OPEN IN WIRE W645 GD257A20N BETWEEN PLUG 084P1 AND FUSELAGE GROUND. REPAIR OR REPLACE AS REQUIRED
INSPECT INLET FOR BLOCKAGE. IS INLET CLEAR?
YES
NO
REMOVE FAN AND DISLODGE FOREIGN OBJECT
REPLACE COOLING FAN
UNPLUG COOLING RELAY. CHECK FOR 115VAC BETWEEN RELAY SOCKET TERMINALS A2, B2, C2, AND GROUND. IS 115VAC PRESENT ON TERMINALS A-2, B2, AND C2?
YES
NO
LOCATE OPEN IN WIRE W645-384-20A, W645-385-20B, OR W645-386-20C BETWEEN RELAY SOCKET AND PLUG 084P1. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR CONTINUITY BETWEEN TERMINALS OF RELAY SOCKET AND PLUG 084P1. IS CONTINUITY PRESENT BETWEEN A1 AND PIN A, B1 AND PIN B, AND C1 AND PIN C?
YES
NO
REPLACE AVIONICS COOLING CB 084CB1
CHECK FOR 28VDC BETWEEN RELAY SOCKET TERMINAL X1 AND GROUND. IS 28VDC PRESENT?
NO
REMOVE ELECTRICAL POWER OPEN NO. 2 PDP. **OPEN AVIONICS COOLING** AC CB. CHECK FOR CONTINUITY BETWEEN TERMINAL A2 OF **AVIONICS COOLING** CB 084CB1 AND TERMINAL A2 OF RELAY SOCKET. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W552-242-20A OR W645-380-20A BETWEEN **AVIONICS COOLING** CB 084CB1 AND RELAY SOCKET. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR CONTINUITY BETWEEN TERMINAL B2 OF **AVIONICS COOLING** CB 084CB1 AND TERMINAL B2 OF RELAY SOCKET. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W552-243-20B AND W645-381-20B BETWEEN **AVIONICS COOLING** CB 084CB1 AND RELAY SOCKET. REPAIR OR REPLACE WIRE AS REQUIRED
CHECK FOR CONTINUITY BETWEEN TERMINAL C2 OF **AVIONICS COOLING** CB 084CB1 AND TERMINAL C2 OF RELAY SOCKET. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W552-244-20C OR W645-382-20C BETWEEN **AVIONICS COOLING** CB 084CB1 AND RELAY SOCKET. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE ELECTRICAL POWER OPEN **AVIONICS COOLING** DC CB. OPEN NO. 2 PDP. CHECK FOR CONTINUITY BETWEEN CIRCUIT SIDE OF **AVIONICS COOLING** DC CB 084CB2 AND TERMINAL X1 OF RELAY SOCKET. IS CONTINUITY PRESENT?
YES
NO
LOCATE OPEN IN WIRE W552-245-20 OR W645-383-20 BETWEEN **AVIONICS COOLING** DC CB 084CB2 AND RELAY SOCKET. REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE **AVIONICS COOLING DC** CB 084CB2
CHECK FOR GROUND ON RELAY SOCKET TERMINAL X2. IS GROUND PRESENT?
YES
NO
LOCATE OPEN IN WIRE W645-GD268A20N BETWEEN RELAY SOCKET AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
REPLACE COOLING RELAY

END OF TASK

9-20 ANTICOLLISION LIGHT (AVIM)



NOTES

1. CIRCLED LETTERS ARE TEST POINT (TP) LOCATIONS
2. ALL RESISTOR VALUES ARE IN OHMS UNLESS OTHERWISE NOTED
3. ALL CAPACITANCE VALUES ARE IN MICROFARADS

90-54

0-45-2577-SA

9-20.2 ANTICOLLISION LIGHT (AVIM) VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

Personnel Required:
68F10 Aircraft Electrician

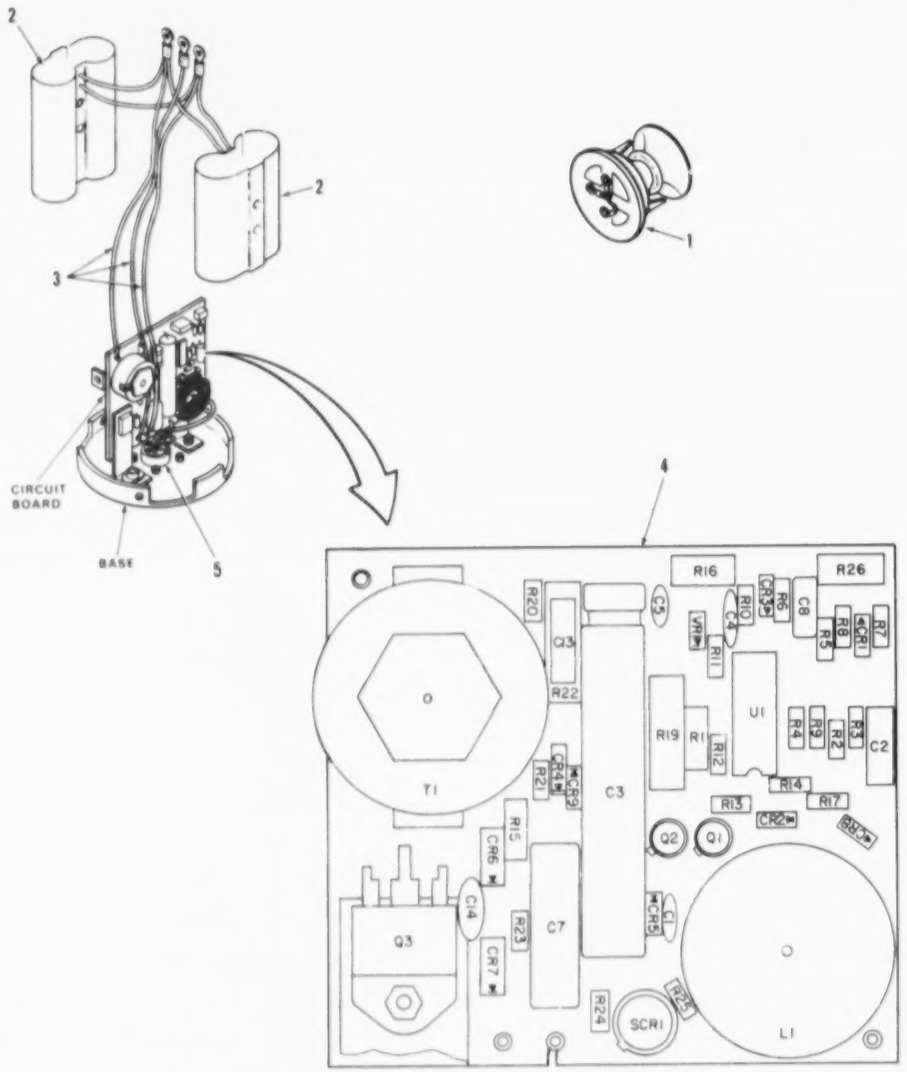
References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Anticollision Light Disassembled Down to Base with Circuit Board Attached

TASK	RESULT
1 **Check lamp (1).**	If lamp (1) is broken, discolored, or damaged, replace it.
2 **Check two electronic components (capacitors) (2).**	If a capacitor (2) is leaking or damaged or its wiring is damaged, replace it.
3 **Check three wires (3).**	If any wire (3) is damaged, replace it.
4 **Check circuit board (4).**	If **circuit board (4)** or any component on board (4) is loose, burnt, leaking, cracked, or damaged, repair or replace it as required.
5 **Check receptacle (5).**	If receptacle (5) is damaged, replace it. If wiring to receptacle(s) is damaged, replace it.

FOLLOW ON MAINTENANCE:

TM 55-1520-240-23:
Lamp Connected to Tagged Wires.



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0145-1257B-SKA

END OF TASK

9-20.3 ANTICOLLISION LIGHT FAILS AVIM TEST

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
All

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter
Power Supply 0-50 VDC
Oscilloscope

Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
Anticollision Light (AVIM) Visual Check Performed (Task 9-20.2)

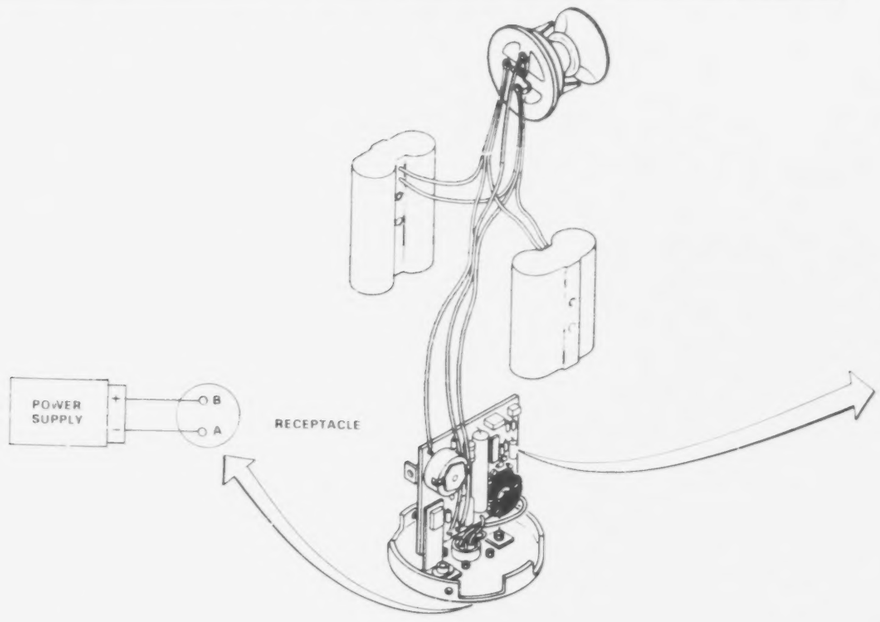
General Safety Instructions:

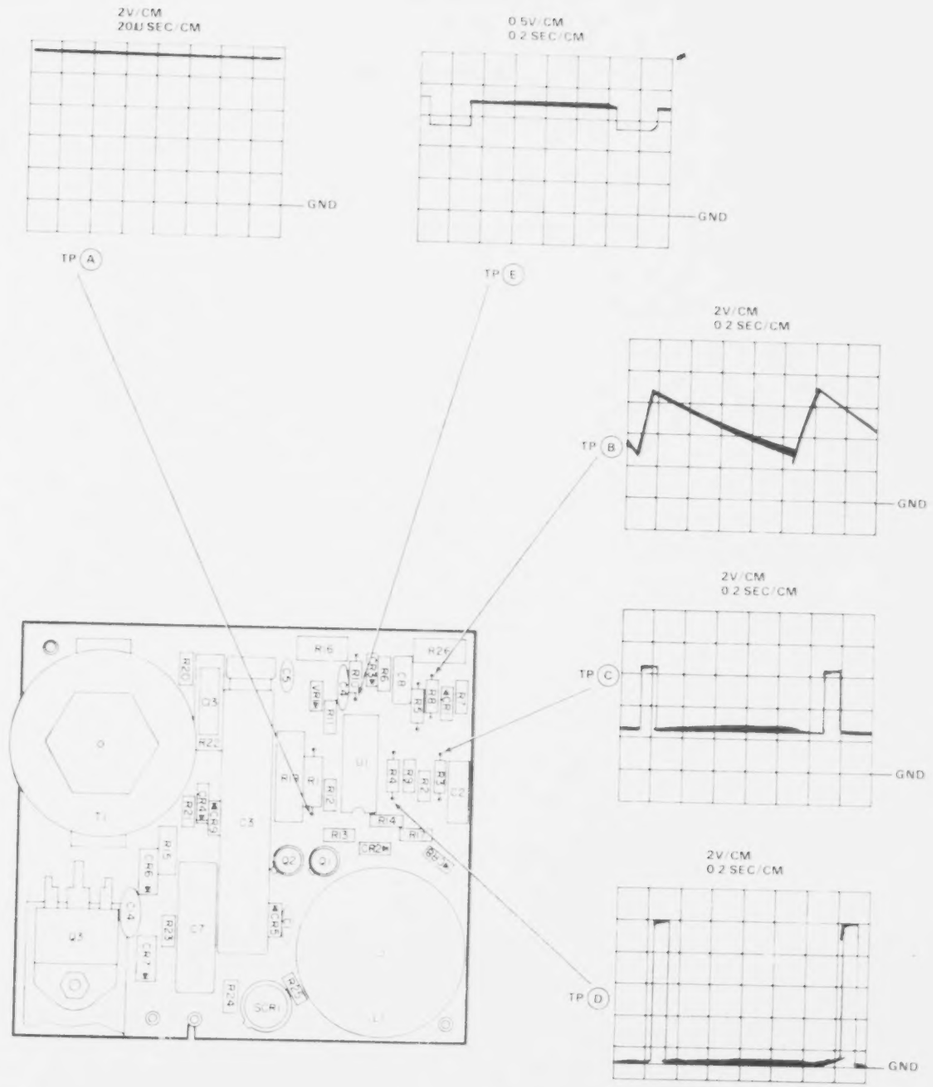
WARNING

Be careful when troubleshooting anticollision light. 500 vdc is present and can cause serious personnel injury.

WARNING

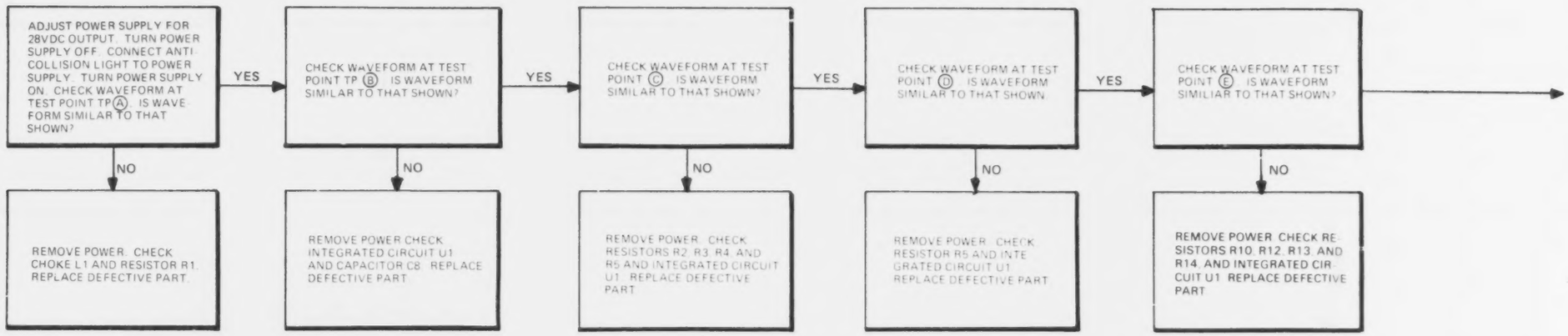
Wait 10 minutes after power supply has been turned off before disconnecting anticollision light. High voltage discharge can occur causing personnel injury.





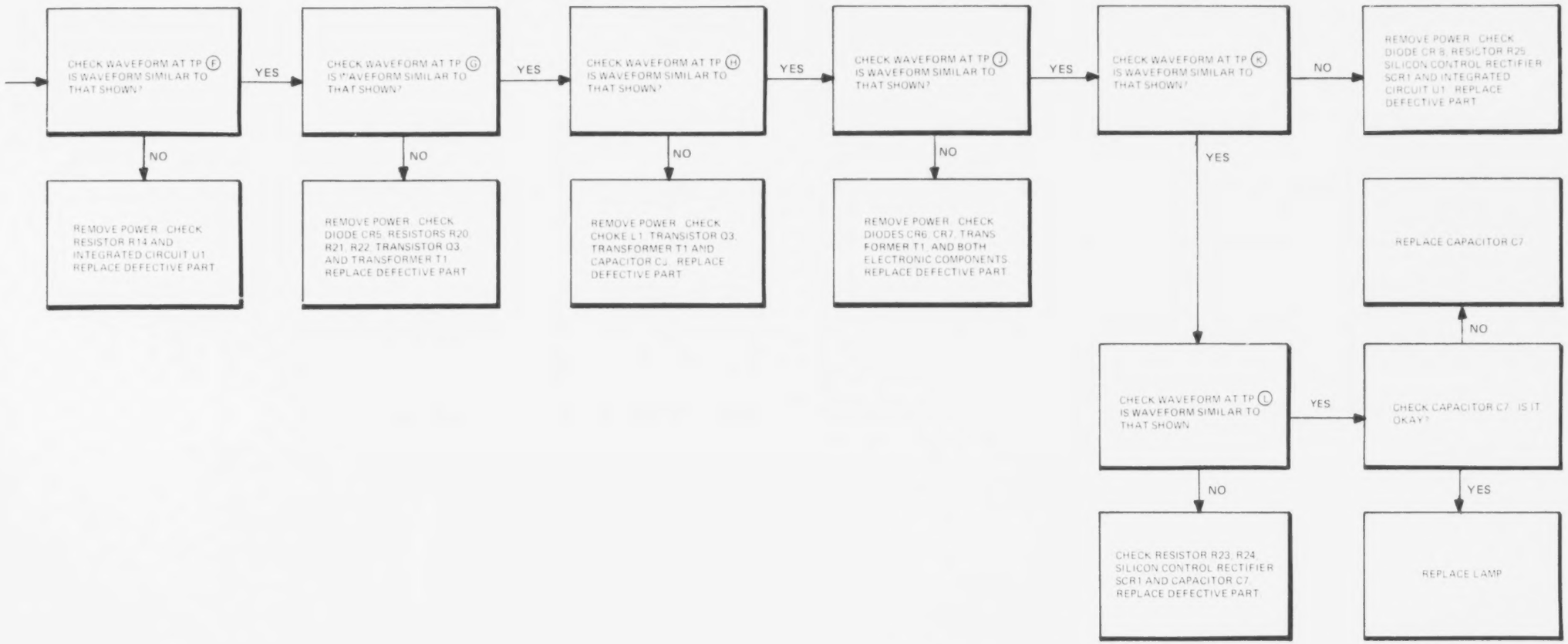
GO TO NEXT PAGE

9-20.3 ANTICOLLISION LIGHT FAILS AVIM TEST (Continued)


ADJUST POWER SUPPLY FOR 28VDC OUTPUT. TURN POWER SUPPLY OFF. CONNECT ANTI-COLLISION LIGHT TO POWER SUPPLY. TURN POWER SUPPLY ON. CHECK WAVEFORM AT TEST POINT TP(A). IS WAVE-FORM SIMILAR TO THAT SHOWN?
YES
CHECK WAVEFORM AT TEST POINT TP (B). IS WAVEFORM SIMILAR TO THAT SHOWN?
YES
CHECK WAVEFORM AT TEST POINT (C). IS WAVEFORM SIMILAR TO THAT SHOWN?
YES
CHECK WAVEFORM AT TEST POINT (D). IS WAVEFORM SIMILAR TO THAT SHOWN.
YES
CHECK WAVEFORM AT TEST POINT (E). IS WAVEFORM SIMILIAR TO THAT SHOWN?
NO
REMOVE POWER. CHECK CHOKE L1 AND RESISTOR R1. REPLACE DEFECTIVE PART.
NO
REMOVE POWER CHECK INTEGRATED CIRCUIT U1 AND CAPACITOR C8. REPLACE DEFECTIVE PART.
NO
REMOVE POWER. CHECK RESISTORS R2, R3, R4, AND R5 AND INTEGRATED CIRCUIT U1. REPLACE DEFECTIVE PART.
NO
REMOVE POWER. CHECK RESISTOR R5 AND INTE GRATED CIRCUIT U1. REPLACE DEFECTIVE PART.
NO
REMOVE POWER. CHECK RE-SISTORS R10, R12, R13, AND R14, AND INTEGRATED CIR-CUIT U1. REPLACE DEFECTIVE PART.

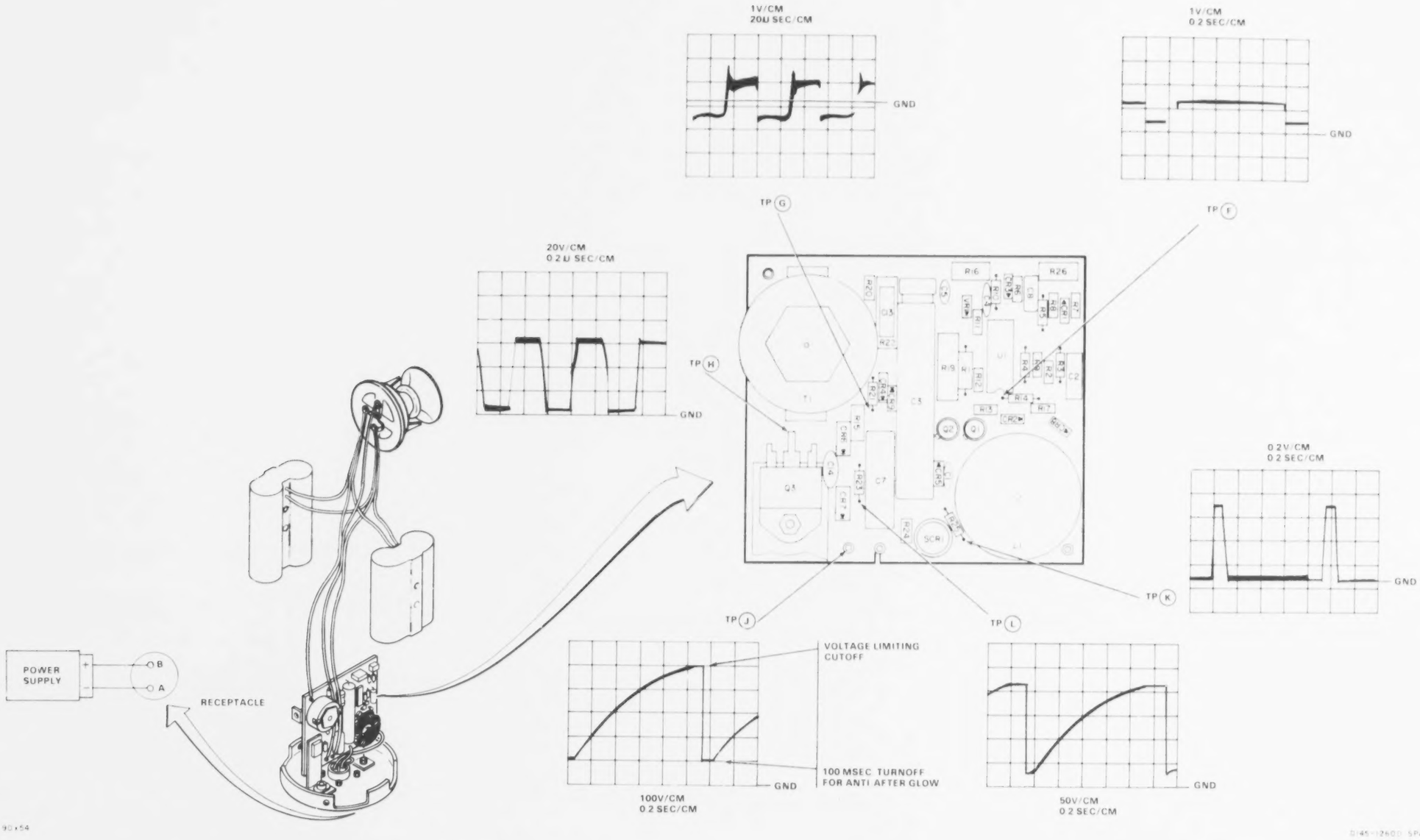
GO TO NEXT PAGE

9-20.3 ANTICOLLISION LIGHT FAILS AVIM TEST (Continued)


CHECK WAVEFORM AT TP (F) IS WAVEFORM SIMILAR TO THAT SHOWN?
YES
NO
REMOVE POWER. CHECK RESISTOR R14 AND INTEGRATED CIRCUIT U1. REPLACE DEFECTIVE PART.
CHECK WAVEFORM AT TP (G) IS WAVEFORM SIMILAR TO THAT SHOWN?
YES
NO
REMOVE POWER. CHECK DIODE CR5, RESISTORS R20, R21, R22, TRANSISTOR Q3, AND TRANSFORMER T1. REPLACE DEFECTIVE PART.
CHECK WAVEFORM AT TP (H) IS WAVEFORM SIMILAR TO THAT SHOWN?
YES
NO
REMOVE POWER. CHECK CHOKE L1, TRANSISTOR Q3, TRANSFORMER T1 AND CAPACITOR C3. REPLACE DEFECTIVE PART.
CHECK WAVEFORM AT TP (J) IS WAVEFORM SIMILAR TO THAT SHOWN?
YES
NO
REMOVE POWER. CHECK DIODES CR6, CR7, TRANSFORMER T1, AND BOTH ELECTRONIC COMPONENTS. REPLACE DEFECTIVE PART.
CHECK WAVEFORM AT TP (K) IS WAVEFORM SIMILAR TO THAT SHOWN?
NO
REMOVE POWER. CHECK DIODE CR 8, RESISTOR R25, SILICON CONTROL RECTIFIER SCR1 AND INTEGRATED CIRCUIT U1. REPLACE DEFECTIVE PART.
YES
CHECK WAVEFORM AT TP (L) IS WAVEFORM SIMILAR TO THAT SHOWN
YES
NO
CHECK RESISTOR R23, R24, SILICON CONTROL RECTIFIER SCR1 AND CAPACITOR C7. REPLACE DEFECTIVE PART.
CHECK CAPACITOR C7. IS IT OKAY?
NO
REPLACE CAPACITOR C7.
YES
REPLACE LAMP

GO TO NEXT PAGE

9-20.3 ANTICOLLISION LIGHT FAILS AVIM TEST (Continued)



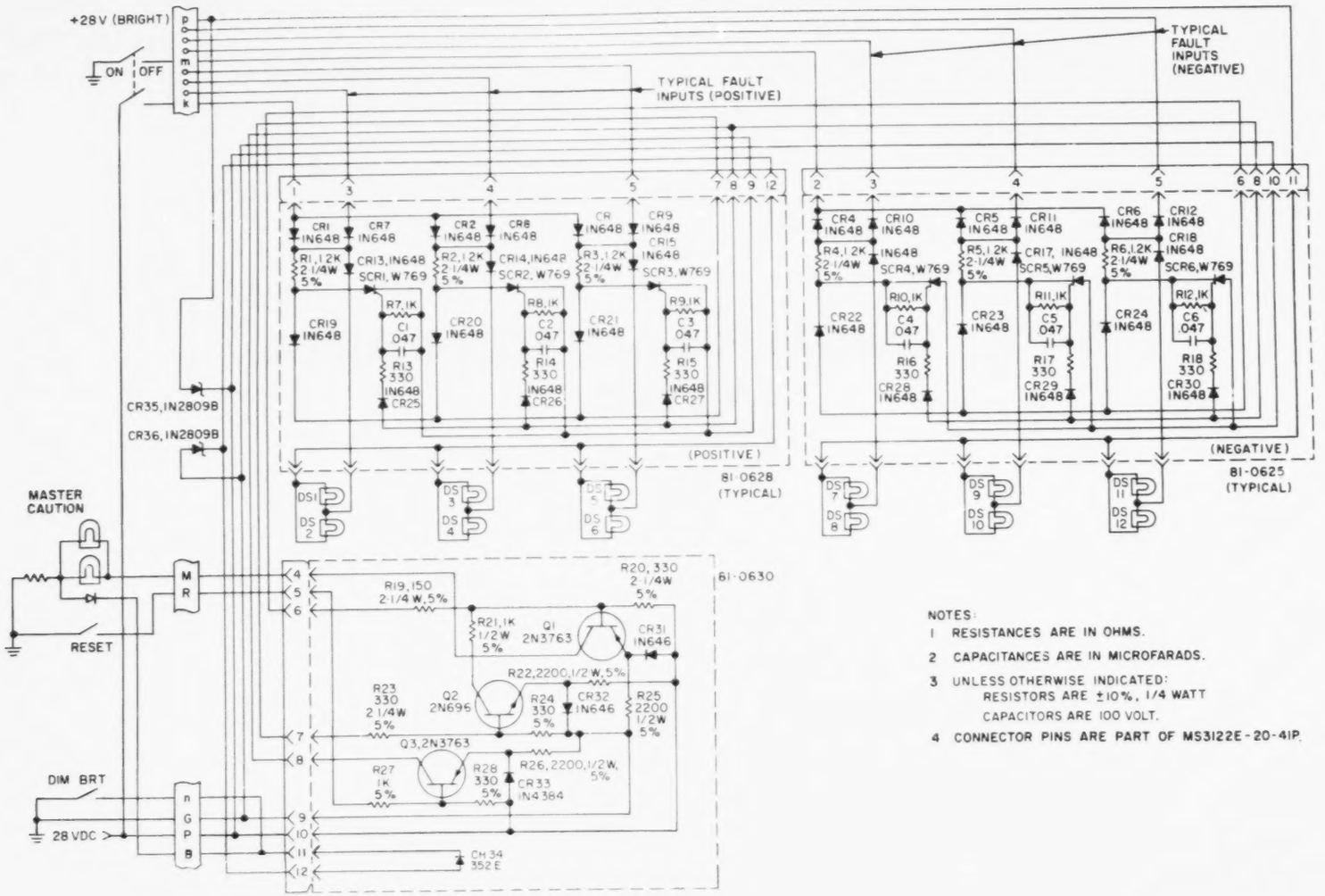
END OF TASK

9-357/(9-358 blank)

9-21 MASTER CAUTION PANEL (AVIM)

9-21 MASTER CAUTION PANEL (AVIM)

9-21.1 MASTER CAUTION PANEL (AVIM) SCHEMATIC



NOTES:

1 RESISTANCES ARE IN OHMS.

2 CAPACITANCES ARE IN MICROFARADS.

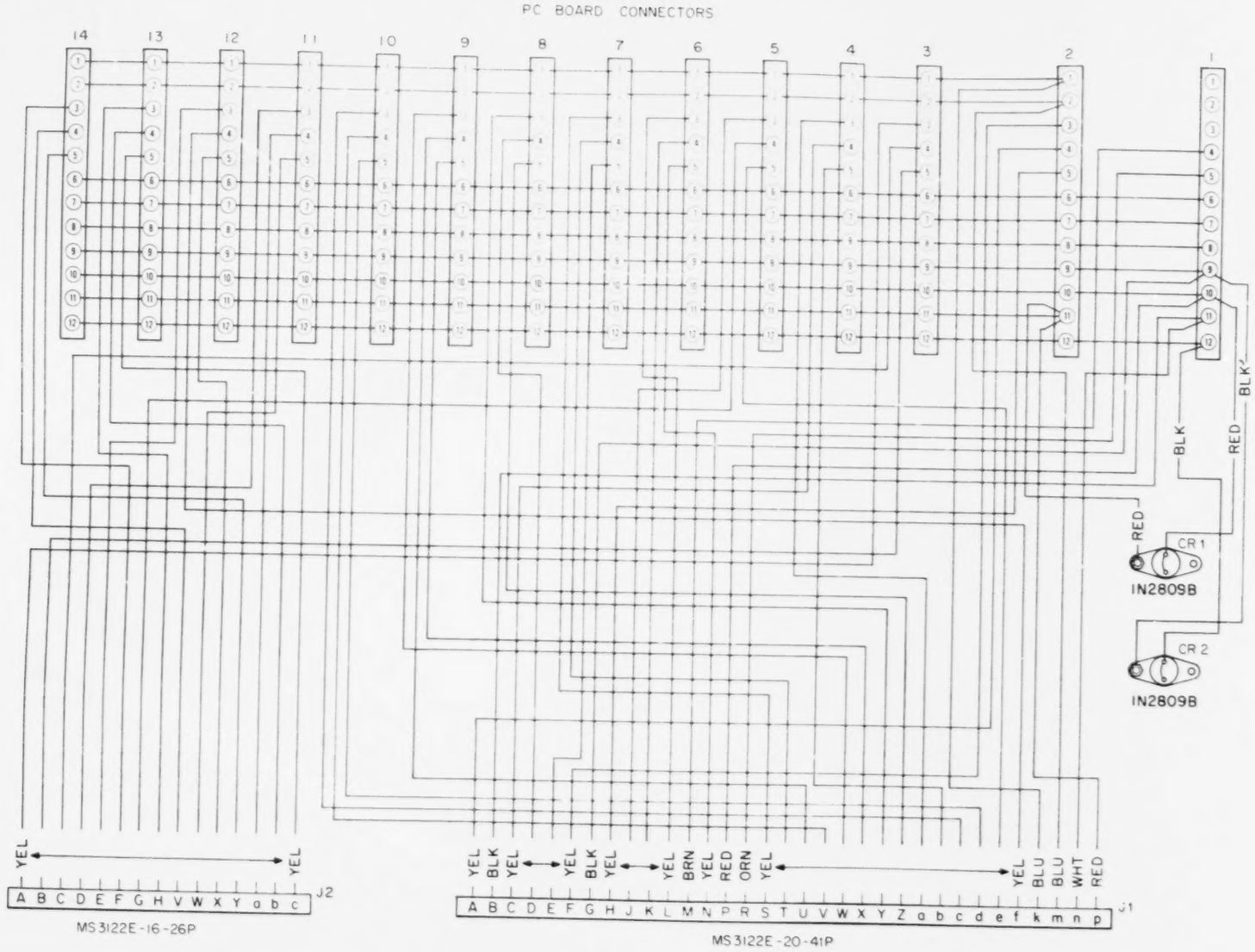
3 UNLESS OTHERWISE INDICATED:
RESISTORS ARE ±10%, 1/4 WATT
CAPACITORS ARE 100 VOLT.

4 CONNECTOR PINS ARE PART OF MS3122E-20-41P.

90x54

D145-12650-SPA

9-21.2 MASTER CAUTION PANEL (AVIM) WIRING DIAGRAM


PC BOARD CONNECTORS
14 13 12 11 10 9 8 7 6 5 4 3 2 1
BLK
RED
CR 1
IN2809B
CR 2
IN2809B
YEL
YEL
A B C D E F G H V W X Y a b c
J2
MS3122E-16-26P
YEL BLK YEL YEL BLK YEL YEL BRN YEL RED ORN YEL YEL BLU BLU WHT RED
A B C D E F G H J K L M N P R S T U V W X Y Z a b c d e f k m n p
J1
MS3122E-20-41P

90x54

DI45-12651-5PA

9-21.3 MASTER CAUTION PANEL FAILS AVIM TEST

FAULT ISOLATION PROCEDURE
INITIAL SETUP

Applicable Configurations:
All

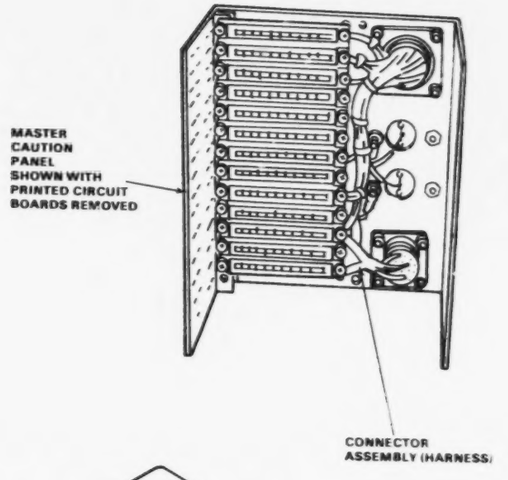
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

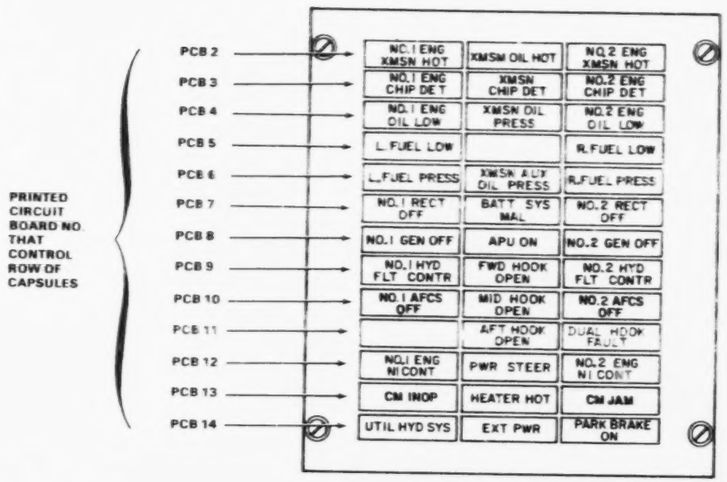
Materials:
None

Personnel Required:
68F20 Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Master Caution Panel
Disconnected from Test Setup





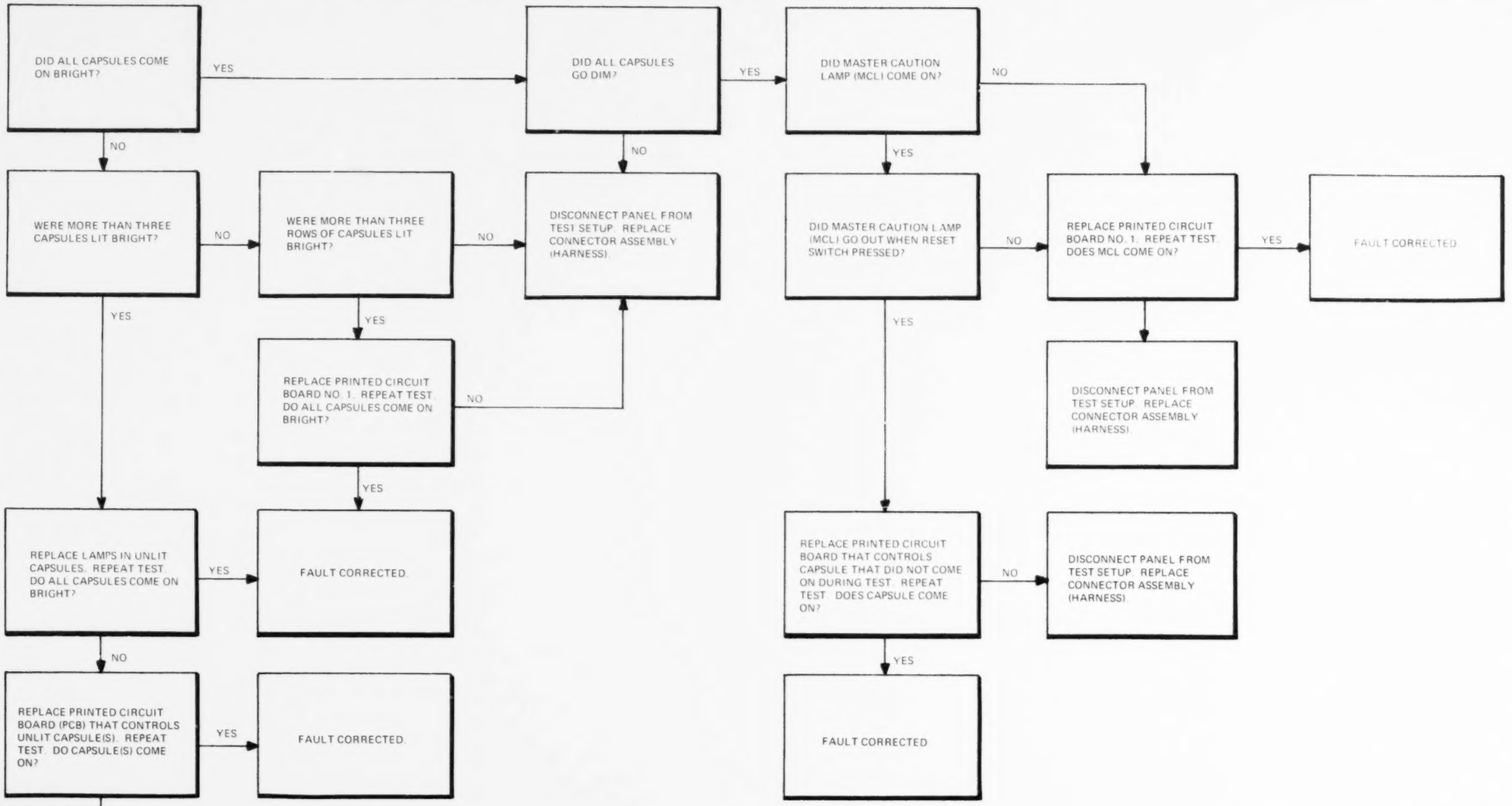
MASTER CAUTION PANEL
CAPSULE LEGENDS

90x54

DI45-12665-SPA

GO TO NEXT PAGE

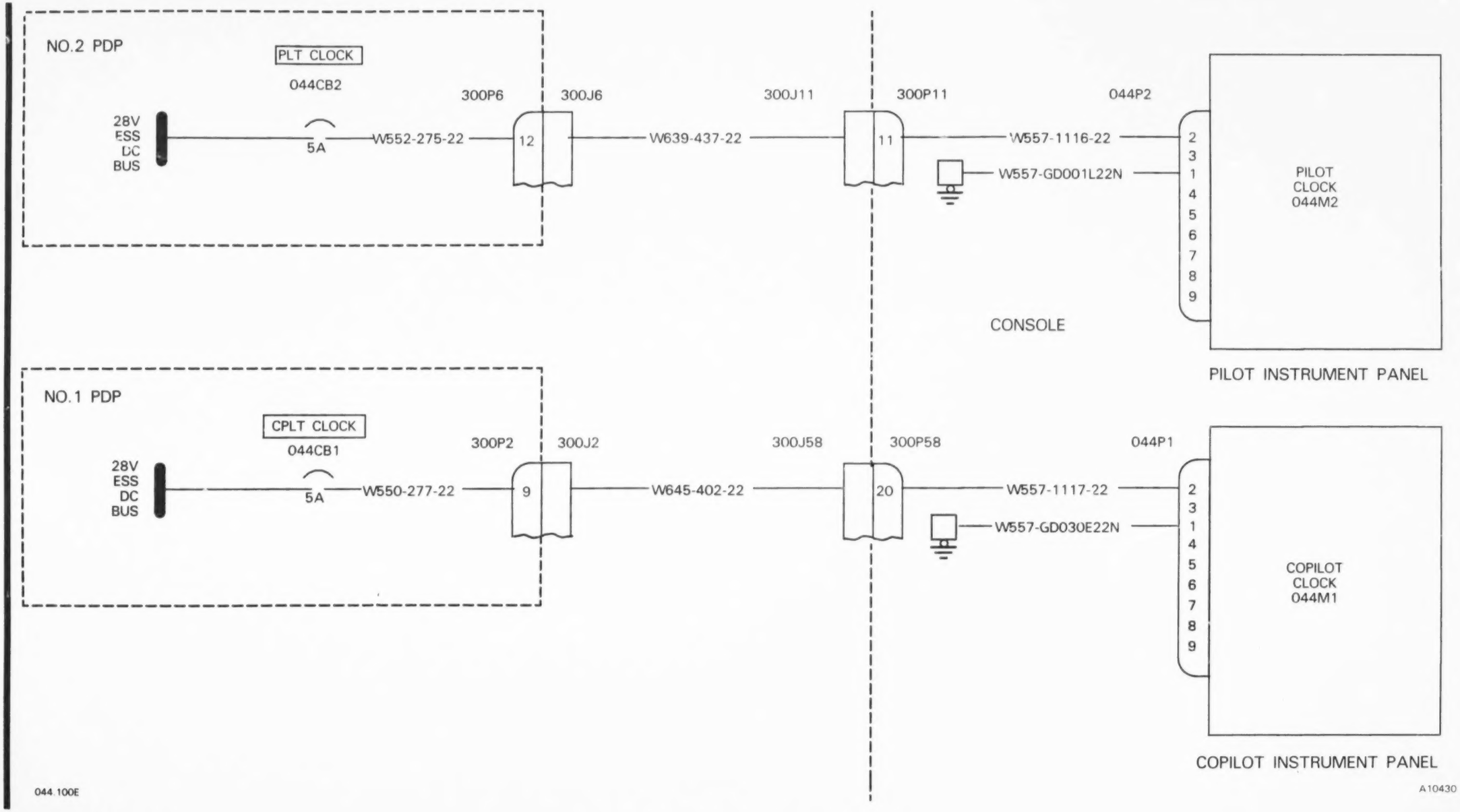
9-21.3 MASTER CAUTION PANEL FAILS AVIM TEST (Continued)


DID ALL CAPSULES COME ON BRIGHT?
YES
DID ALL CAPSULES GO DIM?
YES
DID MASTER CAUTION LAMP (MCL) COME ON?
NO
NO
YES
WERE MORE THAN THREE CAPSULES LIT BRIGHT?
NO
WERE MORE THAN THREE ROWS OF CAPSULES LIT BRIGHT?
NO
DISCONNECT PANEL FROM TEST SETUP. REPLACE CONNECTOR ASSEMBLY (HARNESS).
DID MASTER CAUTION LAMP (MCL) GO OUT WHEN RESET SWITCH PRESSED?
NO
REPLACE PRINTED CIRCUIT BOARD NO. 1. REPEAT TEST. DOES MCL COME ON?
YES
FAULT CORRECTED.
YES
YES
REPLACE PRINTED CIRCUIT BOARD NO. 1. REPEAT TEST. DO ALL CAPSULES COME ON BRIGHT?
NO
YES
DISCONNECT PANEL FROM TEST SETUP. REPLACE CONNECTOR ASSEMBLY (HARNESS).
YES
REPLACE LAMPS IN UNLIT CAPSULES. REPEAT TEST. DO ALL CAPSULES COME ON BRIGHT?
YES
FAULT CORRECTED.
REPLACE PRINTED CIRCUIT BOARD THAT CONTROLS CAPSULE THAT DID NOT COME ON DURING TEST. REPEAT TEST. DOES CAPSULE COME ON?
NO
DISCONNECT PANEL FROM TEST SETUP. REPLACE CONNECTOR ASSEMBLY (HARNESS).
NO
YES
REPLACE PRINTED CIRCUIT BOARD (PCB) THAT CONTROLS UNLIT CAPSULE(S). REPEAT TEST. DO CAPSULE(S) COME ON?
YES
FAULT CORRECTED.
FAULT CORRECTED
NO
DISCONNECT PANEL FROM TEST SETUP. REPLACE CONNECTOR ASSEMBLY (HARNESS).

END OF TASK

9-22 CLOCK

I


NO.2 PDP
PLT CLOCK
044CB2
28V ESS DC BUS
5A
W552-275-22
300P6
12
300J6
W639-437-22
300J11
11
300P11
W557-1116-22
W557-GD001L22N
044P2
2
3
1
4
5
6
7
8
9
PILOT CLOCK 044M2
CONSOLE
PILOT INSTRUMENT PANEL
NO.1 PDP
CPLT CLOCK
044CB1
28V ESS DC BUS
5A
W550-277-22
300P2
9
300J2
W645-402-22
300J58
20
300P58
W557-1117-22
W557-GD030E22N
044P1
2
3
1
4
5
6
7
8
9
COPILOT CLOCK 044M1
COPILOT INSTRUMENT PANEL
044.100E
A10430

9-22.2 CLOCK VISUAL CHECK

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915

Materials:
None

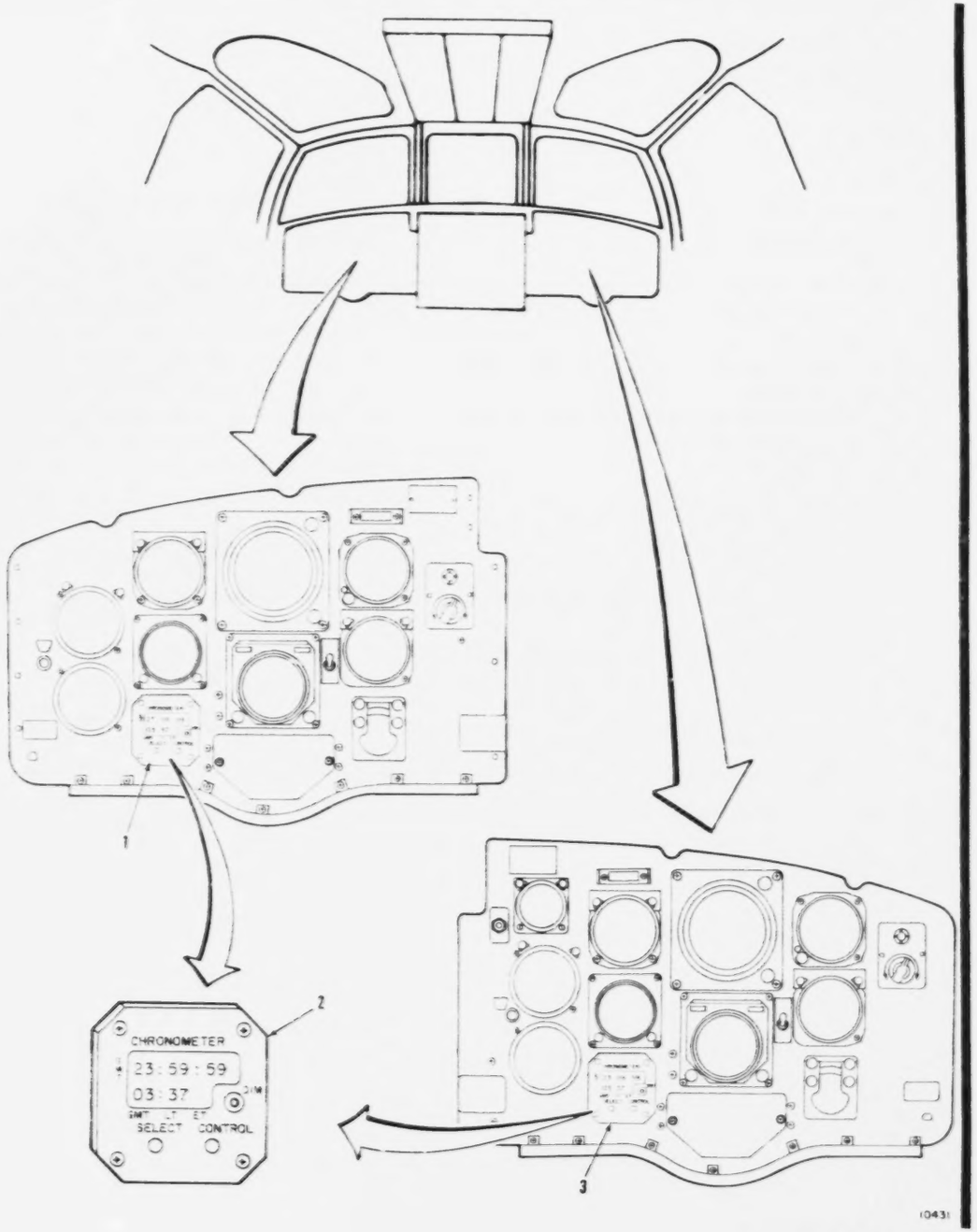
Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

TASK	RESULT
1. **Check copilot's clock (1).**	If clock (1) is loose or panel (2) is damaged, tighten or replace clock as required.
2. **Check pilot's clock (3).**	If clock (3) is loose or panel (2) is damaged, tighten or replace clock as required.

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
None



END OF TASK

9-22.3 CLOCK OPERATIONAL CHECK

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
None

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23
TM 55-1520-240-10

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off
Visual Check of Clock Performed (Task 9-22.2)

TASK	RESULT
1. **Check that PLT CLOCK circuit breaker (1)** is closed.	If PLT CLOCK circuit breaker (1) is open, close it. If it opens again, go to task 9-22.4.
2. **Check that CPLT CLOCK circuit breaker (2)** is closed.	If CPLT CLOCK circuit breaker (2) is open, close it. If it opens again, go to task 9-22.5.
3. **Check GMT display (3) on pilot and co-pilot clocks (4) and (5).**	GMT display (3) shall indicate greenwich mean time. If display is blank, replace battery on back of clock and set clock. Refer to TM 55-1520-240-20 for setting instructions.
4. Press and hold SELECT button (6) on pilot's clock (4) for three seconds.	Clock display (7) shall indicate 88:88 and annunciators (8) shall light. If display does not indicate 88:88 and annunciators are not lit, go to task 9-22.6.
5. **Rotate DIM control (9) on pilot's clock (4).**	**Clock display brightness shall vary. If it does not, replace pilot's clock.**
6. Press and hold SELECT button (6) on copilot's clock (5) for three seconds.	Clock display (7) shall indicate 88:88 and annunciators (8) shall light. If display does not indicate 88:88 and annunciators are not lit, go to task 9-22.7.
7. **Rotate DIM control (9) on copilot's clock (5).**	Clock display brightness shall vary. If it does not, replace copilot's clock.

FOLLOW-ON MAINTENANCE:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off

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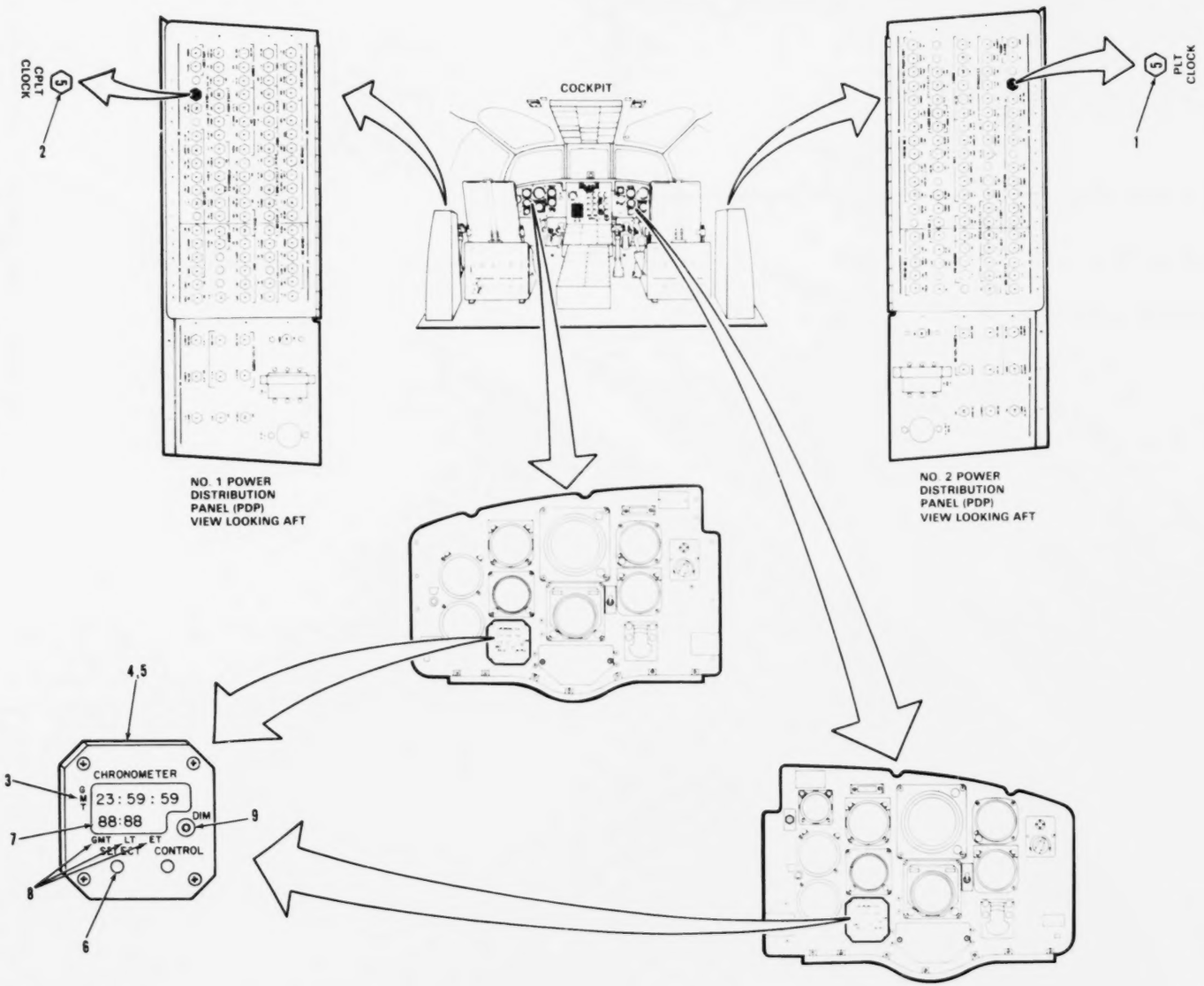
9-22.3 CLOCK OPERATIONAL CHECK (Continued)



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GO TO NEXT PAGE

9-22.4 PILOT CLOCK CIRCUIT BREAKER DOES NOT STAY CLOSED 9-22.4

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

Tools:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

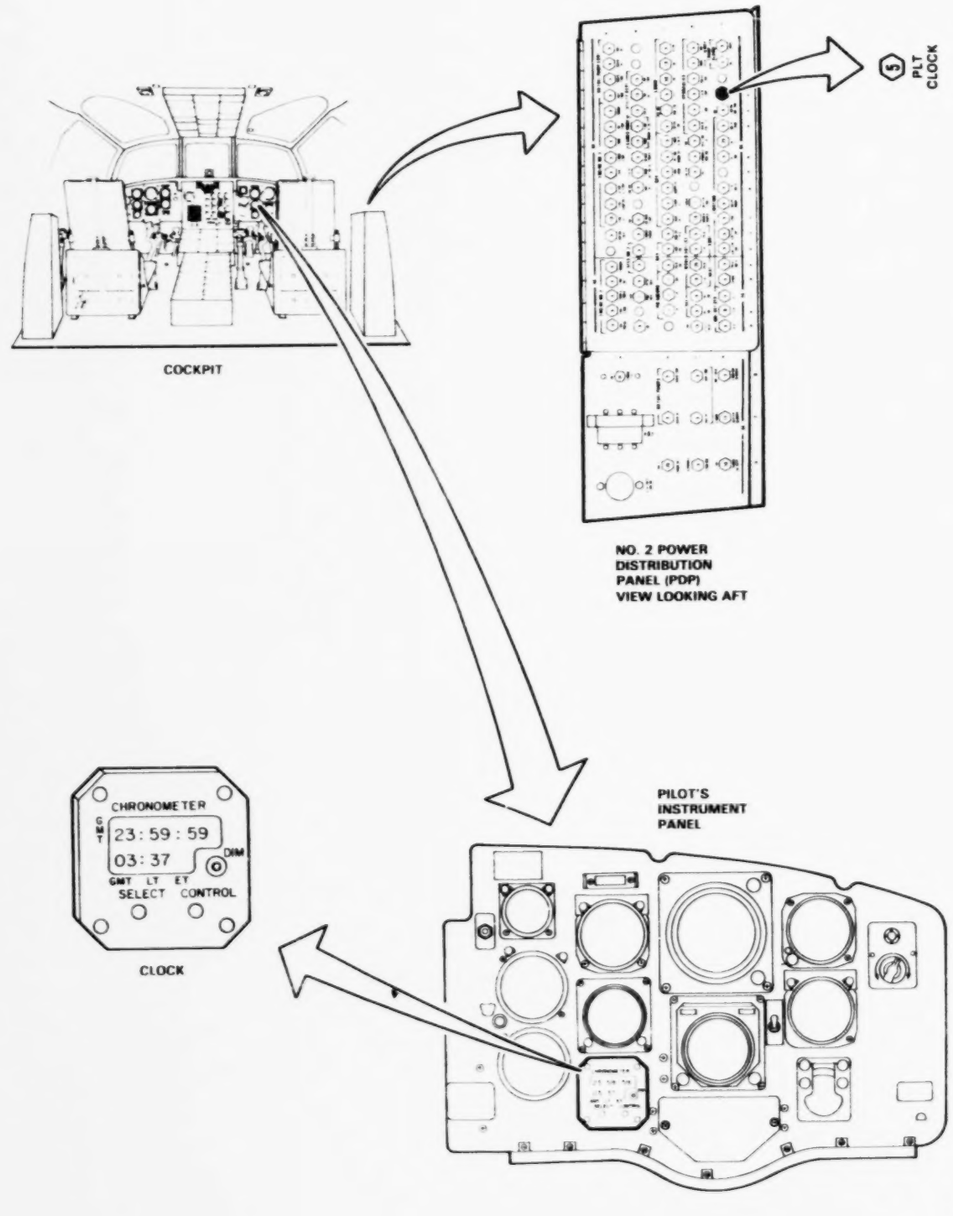
Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off

OPEN **PLT CLOCK** CB. REMOVE PILOT'S CLOCK AND DISCONNECT PLUG 044P2. CHECK FOR GROUND ON PLUG 044P2 PIN 2. IS GROUND PRESENT?

NO → REPLACE PILOT'S CLOCK.

YES ↓

LOCATE GROUND FAULT ON WIRE W557-1116-22, W639-437-22, OR W552-275-22 BETWEEN PLUG 044P2 AND **PLT CLOCK** CB 044CB2. REPAIR OR REPLACE WIRE AS REQUIRED.



END OF TASK

9-22.5 COPILOT CLOCK CIRCUIT BREAKER DOES NOT STAY CLOSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

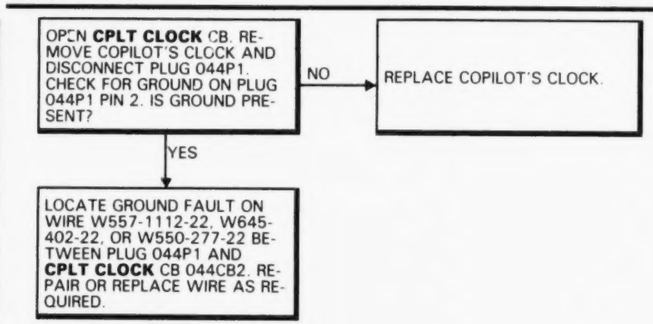
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

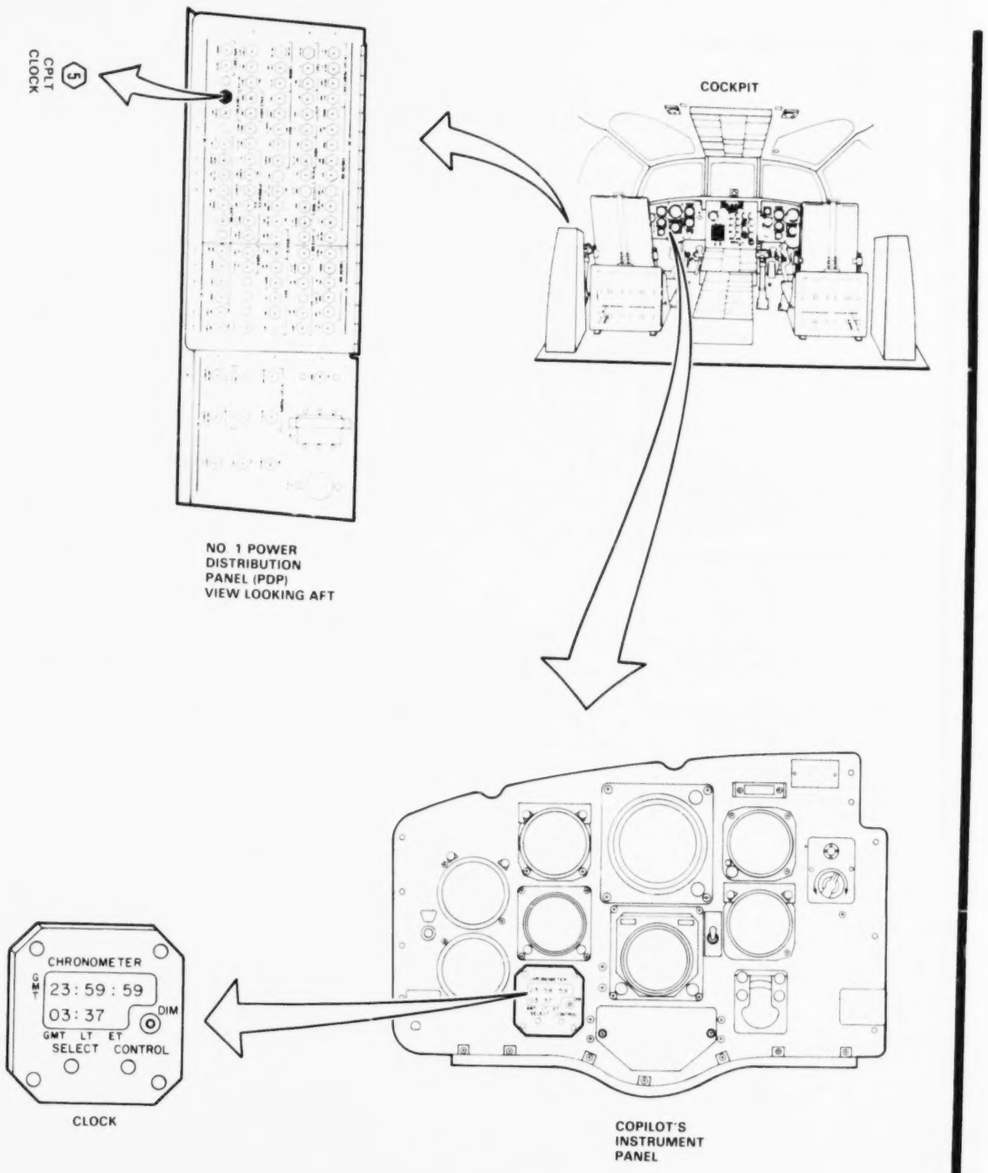
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Disconnected
Electrical Power Off
Hydraulic Power Off


OPEN **CPLT CLOCK** CB. REMOVE COPILOT'S CLOCK AND DISCONNECT PLUG 044P1. CHECK FOR GROUND ON PLUG 044P1 PIN 2. IS GROUND PRESENT?
NO
REPLACE COPILOT'S CLOCK.
YES
LOCATE GROUND FAULT ON WIRE W557-1112-22, W645-402-22, OR W550-277-22 BETWEEN PLUG 044P1 AND **CPLT CLOCK** CB 044CB2. REPAIR OR REPLACE WIRE AS REQUIRED.



END OF TASK

9-22.6 PILOT'S CLOCK DISPLAY DOES NOT INDICATE 88:88 WHEN SELECT BUTTON PRESSED

FAULT ISOLATION PROCEDURE

INITIAL SETUP

Applicable Configurations:
With 17

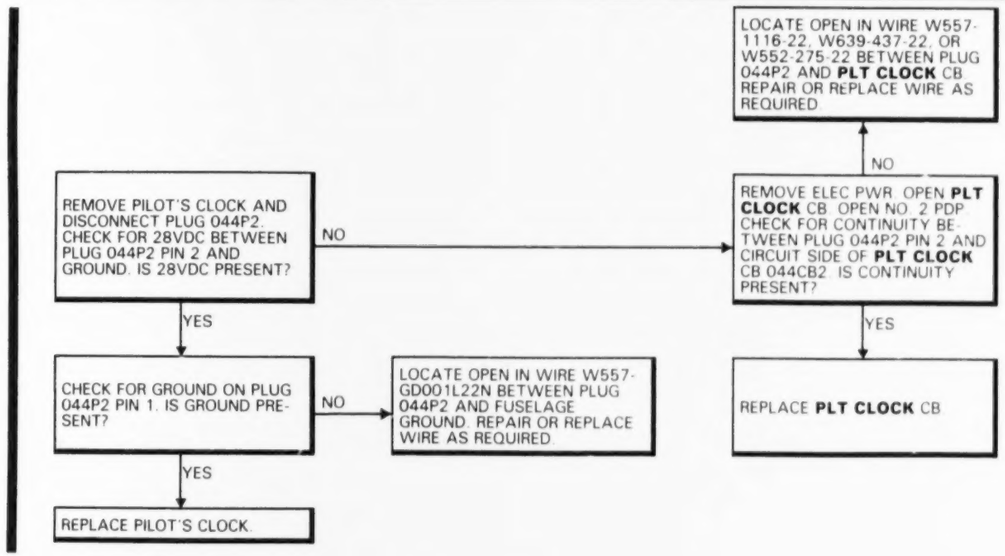
Tools:
Electrical Repairer's Tool Kit,
NSN 5180-00-323-4915
Multimeter

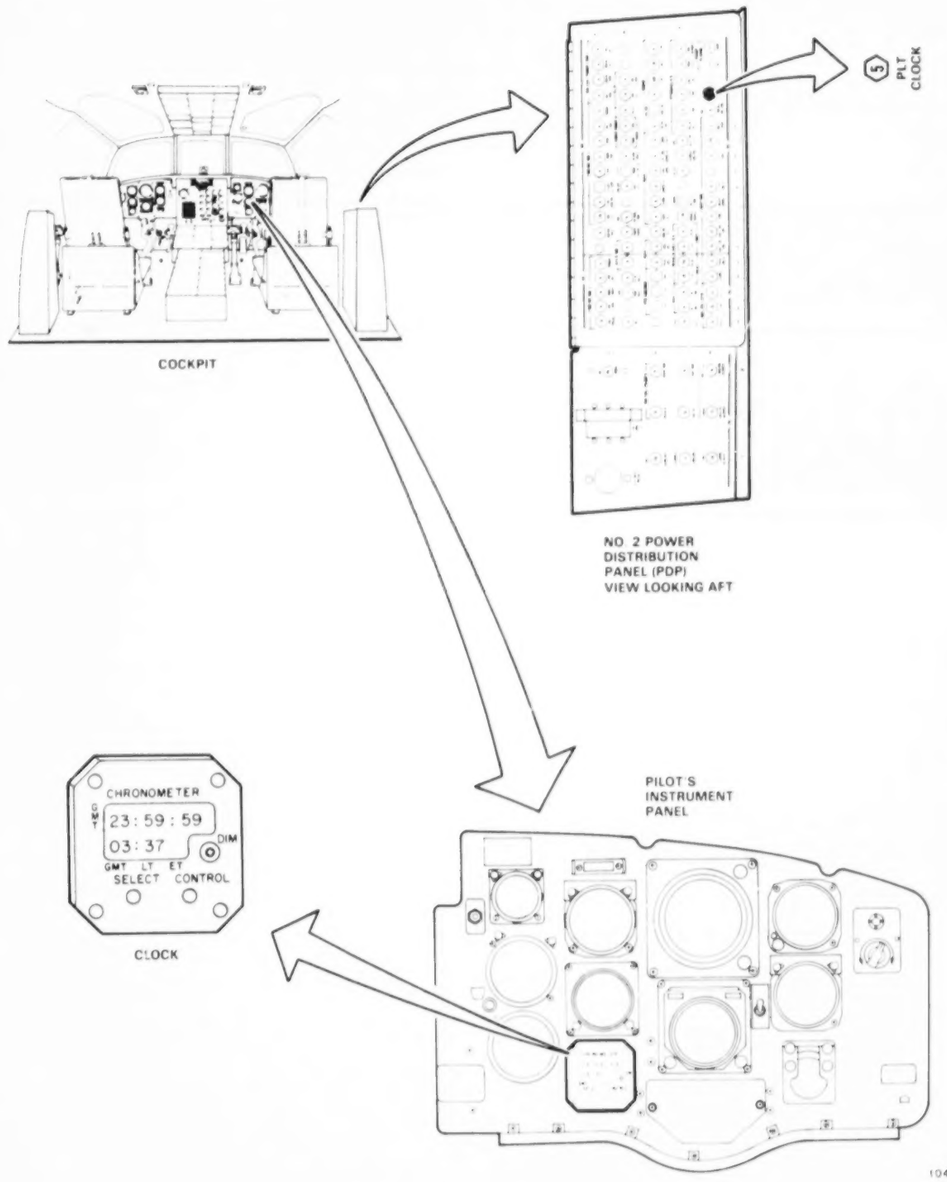
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off


REMOVE PILOT'S CLOCK AND DISCONNECT PLUG 044P2. CHECK FOR 28VDC BETWEEN PLUG 044P2 PIN 2 AND GROUND. IS 28VDC PRESENT?
NO
YES
CHECK FOR GROUND ON PLUG 044P2 PIN 1. IS GROUND PRESENT?
NO
YES
REPLACE PILOT'S CLOCK.
LOCATE OPEN IN WIRE W557-GD001L22N BETWEEN PLUG 044P2 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED
REMOVE ELEC PWR. OPEN **PLT CLOCK** CB. OPEN NO. 2 PDP. CHECK FOR CONTINUITY BETWEEN PLUG 044P2 PIN 2 AND CIRCUIT SIDE OF **PLT CLOCK** CB 044CB2. IS CONTINUITY PRESENT?
NO
YES
REPLACE **PLT CLOCK** CB
LOCATE OPEN IN WIRE W557-1116-22, W639-437-22, OR W552-275-22 BETWEEN PLUG 044P2 AND **PLT CLOCK** CB. REPAIR OR REPLACE WIRE AS REQUIRED



END OF TASK

9-22.7 COPILOT'S CLOCK DISPLAY DOES NOT INDICATE 88:88 WHEN SELECT BUTTON PRESSED

FAULT ISOLATION PROCEDURE

ITIAL SETUP

Applicable Configurations:
With 17

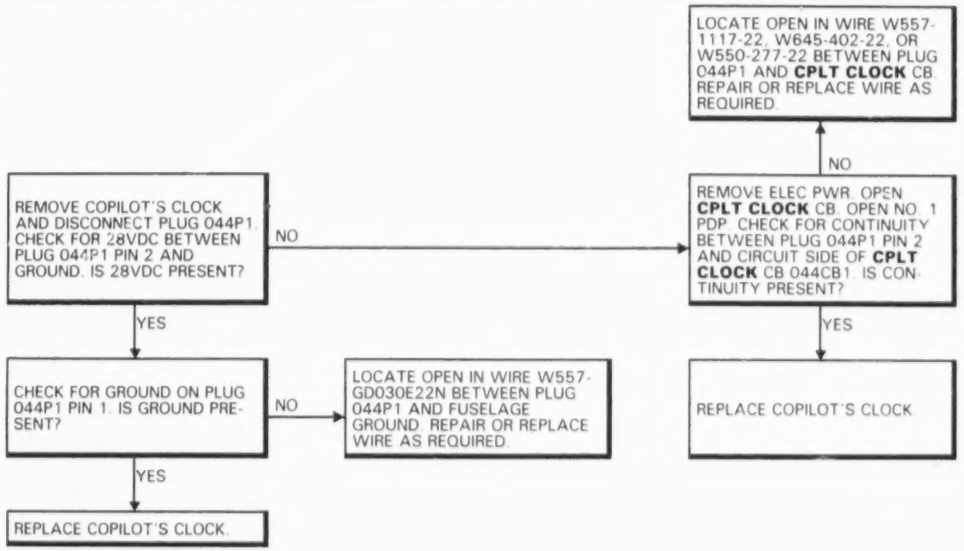
ols:
Electrical Repairer's Tool Kit, NSN 5180-00-323-4915
Multimeter

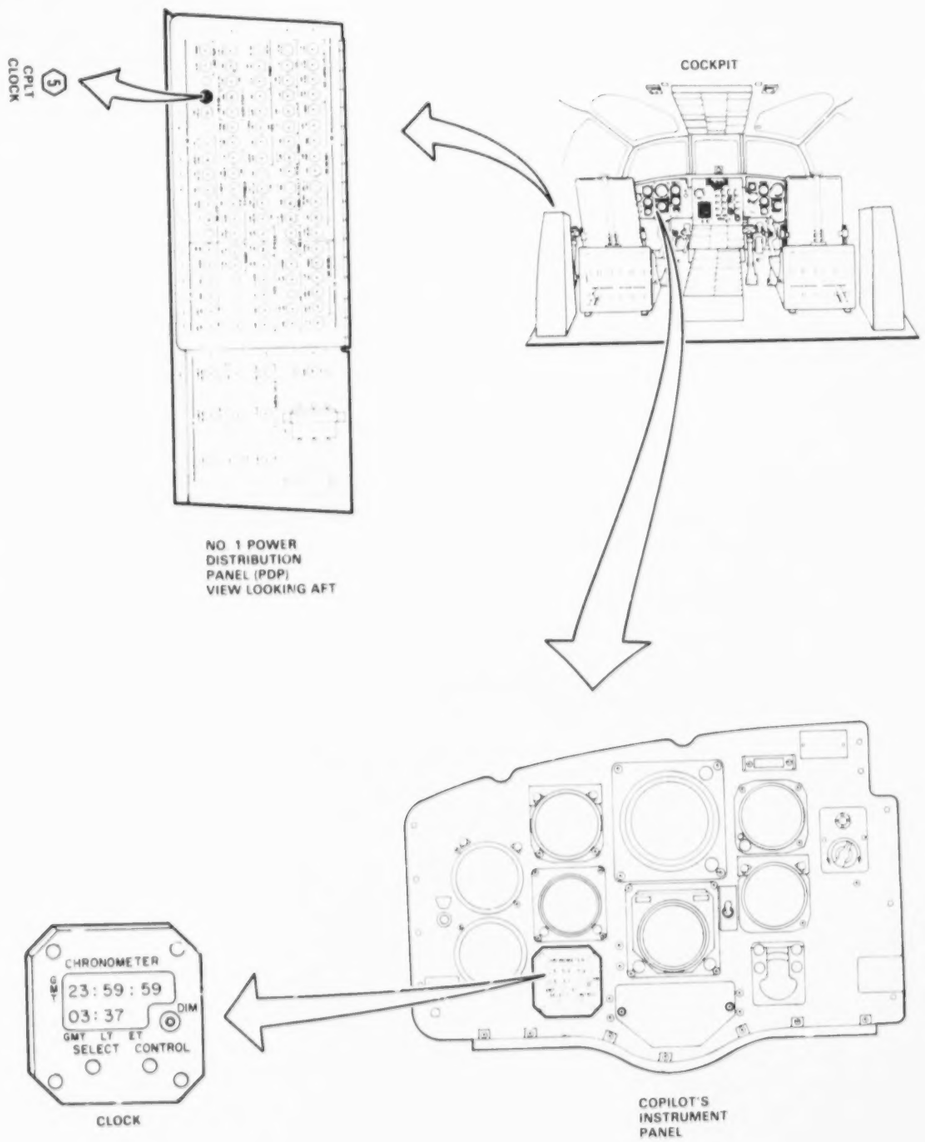
Materials:
None

Personnel Required:
Aircraft Electrician

References:
TM 55-1520-240-23

Equipment Condition:
TM 55-1520-240-23:
Battery Connected
Electrical Power On
Hydraulic Power Off


REMOVE COPILOT'S CLOCK AND DISCONNECT PLUG 044P1. CHECK FOR 28VDC BETWEEN PLUG 044P1 PIN 2 AND GROUND. IS 28VDC PRESENT?
NO
YES
CHECK FOR GROUND ON PLUG 044P1 PIN 1. IS GROUND PRESENT?
NO
YES
REPLACE COPILOT'S CLOCK.
LOCATE OPEN IN WIRE W557-GD030E22N BETWEEN PLUG 044P1 AND FUSELAGE GROUND. REPAIR OR REPLACE WIRE AS REQUIRED.
REMOVE ELEC PWR. OPEN **CPLT CLOCK** CB. OPEN NO. 1 PDP. CHECK FOR CONTINUITY BETWEEN PLUG 044P1 PIN 2 AND CIRCUIT SIDE OF **CPLT CLOCK** CB 044CB1. IS CONTINUITY PRESENT?
NO
YES
REPLACE COPILOT'S CLOCK.
LOCATE OPEN IN WIRE W557-1117-22, W645-402-22, OR W550-277-22 BETWEEN PLUG 044P1 AND **CPLT CLOCK** CB. REPAIR OR REPLACE WIRE AS REQUIRED.



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END OF TASK

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Relay, APU Fault		
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Windshield Wipers System	12-4	12-71
Motor, Windshield Wiper		
Resistor, Windshield Wiper Motor		
Switch, Rotary Windshield Wiper		
Wheel Brake System	7-6	7-175
Control Valve, Wheel Brake		
Switch, Parking Brake Handle		
Winch Control Grip, Hoist Operator	14-1	14-1
Winch Motor, Hoist	14-1	14-1

By Order of the Secretary of the Army:

E. C. MEYER
General, United States Army
Chief of Staff

Official:

ROBERT M. JOYCE
Major General, United States Army
The Adjutant General

DISTRIBUTION:
To be distributed in accordance with DA Form 12-31, Organizational Maintenance requirements for CH-47B/C & D aircraft.

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PFC JOHN DOE
COA, 3d ENGINEER BN
FT. LEONARDWOOD, MO 63108

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 55-1520-240-T-2	10 May 83	Troubleshooting, CH-47D, Helicopter

BE EXACT PIN-POINT WHERE IT IS

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO	IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:
6	2-1 a			In line 6 of paragraph 2-1a the manual states the engine has 6 Cylenders. The engine on my set only has 4 Cylenders. Change the manual to show 4 Cylenders.
B1		4-3		Callout 16 on figure 4-3 is pointing at a bolt. In key to figure 4-3, item 16 is called a shim - Please correct one or the Other.
125	line 20			I ordered a gasket, item 19 on figure B-16 by NSN 2910-00-762-3001. I got a gasket but it doesn't fit. Supply says I got what I ordered, so the NSN is Wrong. Please give me a good NSN

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER
JOHN DOE, PFC (268) 317-7111

SIGN HERE JOHN DOE
JOHN DOE

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TEAR ALONG PERFORATED LINE

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .035 ounce
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.356	metric tons	short tons	1.102
pound-inches	newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C